THE AMERICAN NEPTUNE

A QUARTERLY JOURNAL OF MARITIME HISTORY

Volume XLVI, No. 2 Spring 1986

Vol. XLVI, Spring 1986 ISSN 0003-0155

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In 1986 the subscription rate will be $32.00 per year for domestic subscribers and $35.00 per year for foreign subscribers. Subscriptions are accepted only for complete volumes, which coincide with the calendar year. In return for subscriptions received after the beginning of the year, subscribers will receive the numbers that have already appeared in the current volume, as well as the numbers that will be published during the remainder of the year. Single copies are $8.50 each in 1986. Certain complete volumes of back issues are available although in cases where the supply is greatly reduced some numbers are sold only as parts of complete volumes.

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THE AMERICAN NEPTUNE

Peabody Museum, East India Square, Salem, Massachusetts 01970

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SALEM, MASSACHUSETTS

PUBLISHED BY THE PEABODY MUSEUM OF SALEM, SALEM, MASSACHUSETTS

PRINTED BY THE ANTHOENSEN PRESS, PORTLAND, MAINE

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EDITOR'S COMMENTS

THIS issue of the *Neptune* represents very much of a change from our Winter edition which was concerned with the North American experience in Pacific and Indian Ocean waters for a century after 1785. But it does resemble it in having a number of articles which are focused on a special period and a special area of the world. In this case it is medieval Europe during the High Middle Ages.

The first of them by William Hamblin, entitled 'The Fatimid Navy During the Early Crusades: 1099-1124,' explains in some detail why the only considerable Islamic naval power in the eastern Mediterranean, that of the Egyptian Fatimids, was unable to prevent Western European flotillas from inexorably conquering the coastal ports of Syria and Palestine during the decades immediately following the initial success of the First Crusade. In telling this story the author is able to elucidate the geographic and maritime disadvantages which these Moslem rulers faced as they tried to defend the Islamic coastal areas to their northeast.

The second article by John E. Dotson, called 'Naval Strategy in the First Genoese-Venetian War, 1257-1270,' explains how Genoa and Venice waged galley warfare during their first late thirteenth-century conflict. It helps explain how warfare at sea during this period was affected by both the factors of geography and the inherent limitations of these kind of craft. And thirdly, we have Timothy Runyan's account of how Edward III of England organized and equipped his fleets for conflict with the Capetians of France during the first decades of the Hundred Years' War. His analysis of the process, called 'Ships and Fleets in Anglo-French Warfare, 1337-1360,' makes it clear just what kind of ships were employed and how they were prepared for battle. In short, these three articles give us a view of how warfare at sea was conducted in the Mediterranean and northern seas of Europe during this period when slowly but surely medieval Europeans were developing maritime and naval skills which were to stand them in good stead later on.

Then our scene changes as Walter Minchinton, a distinguished English maritime historian, in an article called 'The Canaries as Ports of Call,' shows how over a long period of early modern times the Canaries served as an important way station for ships sailing through South Atlantic waters, a role that the nearby Azores now play in our air age. And next we have the interesting offering by Mary Malloy, entitled '*Storm Along: An American Sea Anthology,* A Manuscript by Joanna C. Colcord in the Collection of the Peabody Museum of Salem,' which tells of the career of this important lady and her contribution to the late nineteenth-century American maritime scenes. And we end this issue with a large number of important book reviews which have accumulated as our last two issues were so full that we did not have room for them.

It also fills us with special pleasure to report that the MacArthur Foundation has just awarded one of its prestigious awards to J. Richard Steffy, our distinguished underwater archaeology specialist. Steffy, whose technical skills have done so much to help in the reconstruction of ancient and medieval ships like the *Kyrenia, Yassi Ada* and *Serçe Liman* vessels, is certainly a recipient for which these awards were designed. We salute him and congratulate him in the name of the entire historical fraternity.

ARCHIBALD R. LEWIS

Salem, Massachusetts

The Fatimid Navy During the Early Crusades: 1099-1124

WILLIAM HAMBLIN

DOMINANCE of the ports and waters of the eastern Mediterranean by Frankish fleets was one of the most important strategic factors leading to the Crusader conquest of the Palestinian coast, and in securing European presence in the region for two centuries. The Franks were able to conquer Fatimid-held maritime cities only when the presence of a large Christian fleet operating in the region insured Frankish naval superiority and paralyzed Fatimid naval capabilities.[1] On the other hand, the Egyptian fleet was equally important in allowing the Fatimids to maintain their presence on the Palestinian coast for as long as they did—over half a century. Although the significance of naval operations in the history of the Crusader conquest of Palestine has long been recognized, there has been no serious attempt to study the Fatimid fleet and its role in the defense of the maritime cities of the Levant.[2] This study will examine the organization of the Fatimid navy, and point out some of the major strategic factors contributing to their defeat in the naval war for Palestine.

In theory the Fatimid navy consisted of seventy-five to ninety war galleys (*shini*) and an additional ten large transports (*shini hamala*).[3] However, in practice there were many factors which decreased this ideal fleet size. First, these figures represent the size of the navy on paper. No Fatimid fleet during this period ever consisted of every available ship. At any given time many ships of this paper fleet would have been sunk or damaged by storms or battles.[4] Other ships were often unseaworthy because of inadequate repairs, supplies or crews.[5] Although some Fatimid fleets comprised as many as seventy ships, such fleets included large numbers of transports.[6] On the other hand, Egypt had a large mercantile fleet of private vessels which were frequently hired or commandeered by the Fatimid government to serve as transports and supply ships.[7]

At the time of the Crusader invasions the Fatimid fleet was stationed in a number of major ports in Egypt, Palestine, and the Red Sea. The main ports in Egypt were Cairo, Alexandria, Damietta, and Tanis. Cairo

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1. The naval activities of the Crusaders and Fatimids have been summarized chronologically in an Appendix to this paper. If a naval event is mentioned in the text without reference, sources for that event will be given in the Appendix under the specified year.

2. The only detailed study of which I am aware is in Arabic, Huriya 'Abd al-Salam, *Al-Nizam al-Harbiya fi Misr: zaman al-Fatimiyin, 358-567 AH / 968-1171 CE* (Cairo, Dar al-Fikr al-'Arabiya, 1980) (hereafter = Abd al-Salam), pp. 57-103. However, this study is concerned mainly with naval administration as opposed to naval strategy, and covers the entire history of the Fatimid dynasty. Little notice is given specifically to the period of the Crusades.

3. Qalqashandi, *Subh al-A'sha* 14 vols. (Cairo: al-Matba'a al-Amiriya, 1903-1919) (hereafter = Qalqashandi), 3:523, mentions seventy-five galleys and ten transports. Maqrizi *Al-Muwa'iz wa al-I'tibar bi Dhikr al-Khitat wa al-Athar* 2 vols. (Beirut: Dar Sader [n.d.] reprint of Bulaq ed.) (hereafter = Maqrizi) 2:193 gives eighty *shini* (galleys), ten *mustahat* (= large decked galleys), and ten transports. For a discussion of these and other technical Arabic naval terms see Aly Mohamed Fahmy, *Muslim Sea-Power in the Eastern Mediterranean from the Seventh to the Tenth Century* A.D. (London, 1950) (hereafter = Fahmy), pp. 130ff.

4. The Fatimid navy suffered significant losses from battles or storms in 1105, 1110 and 1123. See Appendix for references.

5. See below for a discussion of the Fatimid conscription policies. A merchant fleet trying to leave Egypt was delayed because the war galleys which were supposed to accompany it were unseaworthy. See S. D. Goitein, 'Contemporary Letters on the Capture of Jerusalem by the Crusaders,' *Journal of Jewish Studies*, vol. 3.4 (1952) (hereafter = Goitein, 'Letters'), p. 312.

6. See Appendix, years 1115, 1123, 1126. The fleet of 1126, for example, consisted of seventy-five to seventy-seven ships, of which only twenty-two to twenty-four were warships with an additional fifty-three support craft of various types.

7. A letter by a Jewish merchant mentions the commandeering of a private vessel, Goitein, 'Letters,' pp. 236-37. Any fleet with over ten transports must have commandeered or hired the extra support ships from private sources.

served as administrative center, naval arsenal and ship building yard,[8] garrison for marines,[9] and the main base for naval activities on the Nile River.[10] In Palestine the main ports were Ascalon, Acre, Sidon and Tyre.[11] The Fatimids also maintained a small fleet of five warships in the Red Sea based at the ports of Aydhab and Suez. Its main purpose was to protect the vital merchant and pilgrim traffic of the Red Sea from the depredations of pirates.[12]

The exact number of the ships stationed at a given port is not fully known, but rough estimates can be given. As mentioned above, the Red Sea fleet consisted of five warships. The combined fleets of Tyre and Sidon sent to relieve the siege of Acre in 1103 numbered twelve galleys.[13] A maximum paper fleet in Palestine of from fifteen to twenty-five warships is probably relatively accurate, leaving forty-five to fifty-five warships based in the ports of Egypt. However, the exact number of ships assigned to a port at any given time probably varied according to military circumstances.

The Fatimid navy was under the command of the *Amir al-bahr*, or Commander of the Sea, an important office in the Fatimid government hierarchy. Part of the naval administration consisted of an office of naval affairs (*Diwan al-Jihad*) which kept detailed written registers of revenues, expenditures, equipment, vessels and personnel.[14] The revenue from certain designated lands within Egypt were set apart especially for funding the navy. There was a system of naval ranks and pay scales for the personnel ranging from twenty, fifteen, ten, five or two dinars per month.[15] There was also a special force of marines for naval combat. The total manpower of the Fatimid navy consisted of about 5,000 men. Although all the details are not clear, it seems certain that the Fatimids possessed a well organized and administered naval force.[16]

There also seems to have been a good deal of training, at least for parts of the navy. When the fleet was called up for duty the Caliph went in procession down to the docks at Cairo and watched a naval review in which ships would row past him on the Nile, turn around in unison, and perform naval wargames and operations.[17] The ability for squadrons of ships to maneuver in unison indicates that there was a fairly high degree of training and coordination among the regular officers and crews of the navy. Naval military theory was also apparently formally taught to Fatimid naval officers, and portions of Fatimid navy manuals have survived.[18]

On the other hand, the 5,000 regular sailors of the Fatimid navy were probably not sufficient for the fleet's needs. Five thousand sailors for a fleet of eighty-five to one hundred ships comes to around fifty to sixty men per vessel. But the average galley required as many as one hundred forty rowers in addition to fifty or more marines.[19] Thus the Fatimids resorted to widespread drafting of civilian sailors to man transports and probably to row war galleys.[20] As mentioned above, the gov-

8. Maqrizi, p. 197. Abd al-Salam, op. cit., pp. 76ff., discusses some of the Egyptian shipbuilding yards near Cairo from an earlier period. See Fahmy, op. cit., pp. 35-50, for discussion of the foundation of the Fatimid naval arsenals at Cairo.

9. Qalqashandi, 3:508, mentions 500 crossbow-armed marines participating in a military review in Cairo.

10. Usama ibn Munqidh, *An Arab-Syrian Gentleman and Warrior in the Period of the Crusades*, trans. P. Hitti (New York: Columbia University Press, 1929), p. 48, describes the preparations at Cairo for a naval expedition up the Nile. The main purposes for the fleet on the Nile were transportation of troops and supplies, transferring men from one bank of the Nile to the other, and naval action against rebels. The military initiative in combat in Upper Egypt was usually in the hands of the force which controlled the Nile.

11. Maqrizi *Khitat*, 1:483.

12. Qalqashandi 3:523. There were large pirate emirates in the archipelagos of Sawakin and Daklah off the coast of modern southern Sudan which frequently disturbed traffic and exacted tribute.

13. See Appendix, year 1103 for sources. It is uncertain if this represents every available ship in Palestine or only a portion of the Fatimid fleet in the Levant at this time.

14. Abd al-Salam, pp. 67ff.

15. Two dinars a month was the average wage of an unskilled worker, and probably represents the wages of a rower. Twenty dinars was the monthly wage of royal guardsmen and heavy cavalry. See William Hamblin, *The Fatimid Army During the Early Crusades* (Ph.D. dissertation, University of Michigan, 1985), pp. 115-26, for a discussion of the Fatimid system of payment.

16. See Qalqashandi, 3:523f, and Maqrizi, 2:193, for all of preceding paragraph.

17. Qalqashandi, 3:523.

18. The question of the possible existence of medieval Arabic naval manuals, perhaps similar to Byzantine naval manuals, needs additional study. There is some indication that at least sections of such manuals have survived in quotations from later works. See U. Christides, 'Naval Warfare in the Eastern Mediterranean (6th-14th centuries): An Arabic Translation of Leo VI's *Naumachia*,' *Graeco-Arabica* vol. 3 (1984), pp. 137-48, and Abd al-Salam, op. cit., pp. 91-97 for a brief discussion.

19. Fahmy, op. cit., p. 132, for the size of crews of Muslim galleys. In general see also pp. 125ff.

20. S. D. Goitein, *A Mediterranean Society*, vol. 2 (Berkeley, 1968), p. 331, mentions that in 1025 merchants could not find any sailors to hire because they had all been conscripted by the navy. W. B. Kubiak, 'The Byzantine Attack on Damietta in 853 and the Egyptian Navy in the 9th Century,' *Byzantion* 40.1 (1970), pp. 56ff discusses the conscription of Christian Egyptian sailors for the Egyptian navy in the ninth century (i.e. before the Fatimids). See also Fahmy, op. cit., pp. 98ff.

ernment also requisitioned civilian vessels for support ships. Although many Egyptian and Palestinian civilian sailors were undoubtedly skilled seamen, the net result of this somewhat haphazard recruiting policy would necessarily have been a decline in coordination, morale and military effectiveness in the fleet as a whole.

As far as the permanent professional force was concerned, however, the Fatimid navy consistently performed well in battle, and when the forces involved were basically equal, victory in naval battle between the Crusaders and Fatimids was fairly evenly split.[21] Nonetheless, over the course of the early twelfth century the Crusaders managed to conquer every Fatimid port in Palestine except Ascalon. Given the apparent quality of the Fatimid navy, why were they driven from the maritime coast?

There are a number of factors which made it essentially a military impossibility for the Muslims to ever hope of winning a naval war against the Franks in the Eastern Mediterranean in the twelfth century. First, much of the strength of Fatimid navy was based specifically on the control of the important maritime resources of the Levant. As that control was slowly lost, Egyptian naval power likewise necessarily declined. The loss of each port decreased Egyptian naval resources of money, manpower, materials, and strategic bases, while conversely increasing the Crusaders' naval potential.

The importance of the Levantine coastal cities to a strong Fatimid navy was due in part to Egypt's paucity of adequate naval building materials; most importantly, an adequate supply of maritime quality lumber for the construction of ships. Beginning as early as the fourth century A.D., Egypt began to suffer from progressive deforestation of naval quality timber. By A.D. 1300 deforestation of most of Egypt was complete. Thus during the early Crusades, although there was still some naval quality timber in Egypt, it was already in short supply.[22] The most accessible lumber for shipbuilding was in the forests of the Levant. When this supply was cut off by Crusader conquests, the acquisition of maritime quality lumber became a significant naval problem facing the Egyptians. Even though the Fatimids retained control of Tyre for twenty-five years, the Crusaders controlled the hinterland and access to the region's forests. The problem of securing adequate lumber became so acute during Saladin's reign that he had to organize a five-year program (1172-1177) of buying naval material from Italy and North Africa before he was able to begin his reconstruction of the Egyptian fleet.[23] This lack of natural resources meant that the creation and maintenance of a fleet was an extremely expensive undertaking. Coming at the time of pressing external land-based military needs in Palestine (which always necessarily took strategic precedence) this logistical problem greatly complicated Fatimid naval operations.

An additional dimension of this problem was that Egypt's short coastline limited the size of the population with maritime skills. Egypt only had three or four ports of major significance, creating a limited number of experienced naval craftsmen and seamen. Major naval operations could be mounted, but required extensive and careful planning.[24] On the other hand, the main Frankish naval powers—Italy, England, Frisia, Scandinavia and Byzantium—were each blessed with a large coastline dotted with numerous important ports, good supplies of shipbuilding materials, and large seafaring populations. The Fatimids simply lacked an adequate maritime population to meet the combined challenge of vital and expanding Christian navies from several kingdoms.

This situation highlights an additional aspect of the Fatimid strategic naval position. In the naval war for control of the Palestinian coast Egypt was opposed at different times not only by the Italians, but also by French, English, Frisian, Norse, and Byzantine navies.[25] Although the Fatimids never faced all of these enemies simultaneously, the constant flow of pilgrims, merchants and soldiers to the Levant from all of Christian Europe insured a massive naval presence that could never be ultimately overcome by Egypt alone. If the Fatimids defeated a Genovese navy one year they could well find themselves facing an equally powerful Venetian, Norse or Byzantine fleet the next year. On

21. The Fatimids won navy engagements in 1102, 1103 and 1108.
22. Fahmy, op. cit, pp. 143-47.
23. See A. Ehrenkreutz, 'The Place of Saladin in the Naval History of the Mediterranean Sea in the Middle Ages,' *Journal of the American Oriental Society*, vol. 75 (1955), p. 105, for discussion and sources.
24. On the recruiting of North African and Syrian seamen to serve in the Egyptian navy, see Ehrenkreutz, 'Place of Saladin,' p. 105.
25. Although weakened in comparison with previous ages, the Byzantine navy was still strong enough to mount an expedition of over 200 ships against Egypt in 1169. See Ehrenkreutz, op. cit., p. 103.

the other hand a naval defeat for the Fatimids represented a major loss which might take several years and great expenditure to replace. Furthermore, the Fatimid reconquest of a port in Palestine would not greatly diminish Crusader naval power since the Crusaders relied almost exclusively on European fleets. The Fatimids were thus never able to strike a significant blow against the foundations of Crusader naval power, since that power was based in Europe. On the other hand, the loss of each port in Fatimid-controlled Palestine represented a significant blow to long-term Fatimid naval potential.

But even if the Fatimids had been able to match the combined European naval resources and manpower, they still faced a number of significant strategic difficulties which compounded their overall numerical and logistical inferiority. By far the most significant strategic problem was that most of the Fatimid navy was in Egypt while the war was in Palestine. When a Crusader fleet or army began to take offensive action against a Fatimid city in Palestine news had to be sent to Egypt, mobilization orders issued, the troops collected and reviewed, supplies organized and transported to the fleet, the equipment and draft animals readied, and the fleet and army had to sail or march from Cairo to Ascalon.

In practice, Fatimid fleets and armies from Egypt tended to reach Ascalon on the average of two months after the initiation of hostilities in Palestine.[26] In strategic terms this meant that the Crusaders had two months in which to carry out their sieges and blockades of Fatimid ports without interference from the main Fatimid navy from Egypt. An examination of the sieges of the period shows that most sieges were either successfully completed or abandoned before this two-month period ended.[27]

Of course the Fatimids had part of their navy based in their Palestinian ports. Although exact Fatimid naval operations cannot be fully traced, it seems that the Palestinian Fatimid fleet was very active in defending Fatimid ports and attacking Crusader shipping. In the absence of an overwhelming European naval power the Fatimid's Palestinian fleet seems to have been sufficiently strong to protect the maritime cities.[28] However, the Palestinian fleet alone was simply numerically insufficient to stand up to the European naval powers when large fleets were sent into the area.

Another strategic problem arose from the geography of Fatimid holdings in Palestine. The Fatimid domain there consisted of a narrow strip of coast from Ascalon to Tripoli, dotted with ten main ports. The interior of Palestine was controlled either by the Crusaders or the Turks of Damascus. By 1101 the Crusaders had taken the ports of Jaffa, Haifa, Arsuf and Caesarea, effectively cutting off the five northern ports of Acre, Tyre, Sidon, Beirut and Tripoli from Egyptian support by land. Each port was equally in danger of assault by land or sea at any time. Thus the Crusaders were given the significant strategic advantage of being able to pick the city and time for battle. Furthermore, the Fatimids were compelled to defend each city independently, thereby being forced to disperse their military strength. For example, if 2,000 soldiers and twenty ships were sent to defend Palestine they would necessarily be divided up among each of the Fatimid ports. On the other hand a Crusader army of 2,000 men and twenty ships could combine most of their forces and attack a single city which was defended by only a fraction of the Fatimid military and naval strength. Until the main Fatimid army and fleet from Egypt could arrive,

26. In 1099 the siege of Jerusalem began on 7 June, while the Fatimid army arrived at Ascalon in the first week in August. In 1101 the siege of Arsuf began on 15 April, the main Fatimid army arrived on 30 June (Ibn al-Qalanisi, *Dhayl Tarikh Dimashq*, ed. H. F. Amerdroz. [Leyden: Brill, 1908] [hereafter Ibn al-Qalanisi], p. 140, trans. by H. A. R. Gibb, *The Damascus Chronicle of the Crusades* [London: Luzac & Company, 1967], p. 53, Maqrizi *Itti'az al-Hunafa bi-Akhbar al-A'ima al-Fatimiyin al-Khulafa*, ed. Muhammad Ahmad, 3 vols. [Cairo, 1973] [hereafter = Maqrizi, *Itti'az*], 3:26). In 1102 Beirut was harassed beginning on 15 February, the Fatimid army arrived in early May (Ibn al-Qalanisi, p. 144 trans. 55). In 1103 the siege of Acre began on 6 April (Albert of Aix *Historia Hierosolymitana* [hereafter = Albert], in *Recueil des Historiens des Croisades: Historiens Occidentaux* [hereafter = RHCOcc] 5 vols. [Paris: Imprimerie Royale, 1844-1895], vol. 4 bk. 9, ch. 19; Fulcher of Chartres, *Historia Hierosolymitana*, RHCOcc, vol. 3 [hereafter = Fulcher], bk. 2, ch. 22) and the Fatimid army arrived on 8 June (Ibn al-Qalanisi, p. 142, trans. 58). For additional details see Hamblin, pp. 224ff.

27. The following Frankish sieges of ports were successfully concluded in less than two months: Jaffa 1099 was abandoned by the Fatimids; Haifa 1100 after about one week; Arsuf 1101 in two weeks; Caesarea 1101 after two weeks; Acre 1104 in three weeks; Tripoli 1109 in five weeks; and Sidon 1110 in six to eight weeks. Of the remaining three major Fatimid ports taken by the Crusaders, Beirut fell in 1110 after a siege of three months; Tyre fell in 1124 after lasting nearly five months, but Egypt was unable to send any naval relief because its fleet had been almost completely destroyed by the Venetians in the Battle of Ascalon in late May 1123; Ascalon fell in 1153 after a siege of almost eight months, during which it could obtain little naval relief from the Fatimid navy due to political intrigues and fighting in Egypt. See Hamblin, pp. 180-85, for further details.

28. The two major victories of the Fatimid Palestinian fleet were the relief of Acre in 1103, and their naval victory in the relief of Sidon in 1108. See Appendix for references.

the Crusaders had a significant military advantage.[29]

A final strategic problem facing the Fatimids was that the prevailing wind patterns were against them. Due to dangerous winter storms, large-scale naval activity was for the most part limited to the summer, and during the summer the prevailing winds were to the south, against an Egyptian fleet trying to sail north to Palestine. Delays in the departure of the Fatimid fleet caused by contrary winds allowed the Franks to capture Tripoli in 1109 before the Fatimid fleet could relieve the city.[30]

In addition to these strategic difficulties, the Fatimid dynasty was plagued by a grave crisis of leadership and political instability. The Fatimid armed forces were split by factionalism between the regiments, each striving for political and economic dominance in Cairo. During the early Crusades there were several cases of insubordination and rebellion among Fatimid troops and officers. For example, in 1103 the commander of the Fatimid army in Palestine refused to cooperate with the Fatimid fleet besieging Jaffa. This lack of unity and effective leadership greatly compounded the other significant strategic problems facing the Fatimids in their war with the Crusaders.[31]

In the end, however, overriding all of these other difficulties, the presence of a large European naval fleet was the decisive factor in Frankish attempts to conquer the Fatimid maritime cities. Major Frankish fleets of fifty ships or more are known to have operated in Palestinian waters in 1101, 1104, 1106, 1109, 1110 and 1123-24. The sieges of Fatimid port cities in each of those years except 1106 ended successfully. Conversely, Crusader sieges of Fatimid port cities in 1099, 1100, 1102, 1103, 1106, 1108, and 1111 when no major European fleets were operating in the area all failed. When the Crusaders had a large European fleet assisting them the Fatimid government was either unable or unwilling to risk their entire fleet in naval battle against the Crusaders for the defense of a single Palestinian port. The economic and strategic benefits of holding a port in southern Palestine were not worth risking the entire Fatimid fleet.[32]

29. See Hamblin, op. cit., pp. 193-94, for additional discussion.

30. See Appendix under year 1109. The Fatimid fleet was also delayed by al-Afdal's indecision of whether to risk the fleet to defend Tripoli or not.

31. See Hamblin, op. cit., pp. 186-98, for a detailed discussion of these problems.

32. For a discussion of Fatimid strategic goals and foreign policies during the Crusades, see Hamblin, op. cit., pp. 199-224.

Thus the ultimate defeat of the Fatimid navy and their loss of the Palestinian maritime coast should not be seen mainly as a military victory by superior European naval forces over an inferior Fatimid navy. On the contrary, it is quite probable that the Fatimid navy at this time was at least as advanced as the Europeans in maritime technology, theory, and military practice. Their loss of southern Palestine was rather due to a combination of strategic, tactical, morale, leadership and economic problems which combined with the frequent appearance of substantial European naval assistance, led to the piecemeal loss of the Palestinian coast. A naval renaissance would eventually briefly occur under Saladin,[33] but by the end of the twelfth century the Europeans would have nearly complete naval control of the eastern Mediterranean which they would retain until the rise of Ottoman naval power in the late fifteenth century.

APPENDIX:
Chronological Outline of Naval Activity in the Levant, 1099-1126[34]

1099

Crusaders—A Pisan fleet of 120 ships aids in siege of Jerusalem.[35]

Fatimids—The Egyptian fleet supports the army at Ascalon.[36]

1100

Crusaders—Part of the Pisan fleet of 1099 was still active. Fatimid naval preparations occurred in Egypt.[37]

1101

Crusaders—A Genoese fleet of eight galleys, eight *gorabii* in February;[38] twenty-four galleys and four large ships ar-

33. On Saladin's naval activities see Ehrenkreutz, op. cit.

34. It should be emphasized that this appendix represents a survey only of those naval activities for which a record has been preserved. There were undoubtedly numerous smaller expeditions and clashes which were not mentioned by medieval historians. Also, every source describing a given event is not necessarily included.

35. Ekkehard of Aura, *Ekkehardi Uraugiensis abbatis Hierosolymita*, ed. H. Hagenmeyer (Tubingen, 1877) (hereafter = Ekkehard), p. 183.

36. Anonymous, *Gesta Francorum et aliorum Hierosolimitanorum*, ed. and trans. Rosalind Hill (London: Thomas Nelson and Sons Ltd., 1962), p. 96, mention the Fatimid fleet, but give no numbers.

37. Goitein, 'Letters,' pp. 236-37.

38. Caffaro, *Annali Genovesi di Caffaro e de' soui continuatori*, 5 vols., editor L. T. Belgrano (Rome; Fonti per la storia d'Italio, 1890-1929) (hereafter = Caffaro), vol. 1, p. 118.

rive on 9 Sept.;[39] Byzantines, twenty transports;[40] some additional ships also remained from the Crusade of 1101.[41] Total—over seventy in region.

FATIMIDS—Forty ships at siege of Jaffa, 8 Sept.[42]

1102

CRUSADERS—From 40 to 200 ships arrive in July.[43] Storms and Fatimid privateers destroy many of them.[44]

FATIMIDS—Fatimid privateers are active against the Franks.[45]

1103

CRUSADERS—Acre is besieged in the spring with sixteen ships.[46]

FATIMIDS—Twelve ships from Tyre and Sidon break blockade of Acre in the spring.[47] A fleet from Egypt blockades Jaffa in the summer.[48]

1104

CRUSADERS—Seventy or ninety Genoese ships blockade Acre.[49]

FATIMIDS—The Fatimids sent no fleet to break the blockade.[50]

1105

CRUSADERS—No recorded fleet activity.

FATIMIDS—The Fatimid fleet blockades Jaffa, but leaves for Tyre and Sidon after their land army is defeated. Later twenty-five ships are grounded in a large storm, with others sinking.[51]

1106

CRUSADERS—A large fleet of English, Frisian and Danish ships assists in an unsuccessful siege of Sidon.[52]

FATIMIDS—No recorded fleet activity.

1108

CRUSADERS—The Crusaders attempt to take Sidon with an Italian fleet of unknown size.[53]

FATIMIDS—An Egyptian fleet takes control of Tripoli.[54] They defeat the Italian fleet in naval battle at siege of Sidon.[55]

1109

CRUSADERS—From sixty to seventy Genovese ships assist in siege of Tripoli.[56]

FATIMIDS—The Fatimid relief fleet is delayed by indecision and contrary winds, arriving after Tripoli falls.[57]

1110

CRUSADERS—Winter: the Crusaders besiege Beirut with twenty-two Genovese galleys.[58] Summer: Sidon is besieged with fifty-five or sixty Norwegian ships.[59]

FATIMIDS—A Fatimid fleet from Tyre and Sidon tries to break blockade of Beirut.[60] The fleet is unable to oppose the strong Norwegian fleet at the siege of Sidon.[61] Large destruction of Egyptian mercantile shipping (as many as seventy ships) occurs around Tanis and Damietta.[62]

1111

CRUSADERS—Baldwin attempts an unsuccessful siege of Tyre with at least twelve Byzantine ships.[63]

39. Caffaro 1. 111-112; C. F. Ekkehard, chap. 31, para. 1-2.

40. Caffaro 1. 114-115.

41. Fulcher of Chartes, chap. 2, para. 15-16.

42. Ekkehard, chaps. 29-30.

43. Albert bk. 9, chap. 11, claims that 200 ships arrived. Ibn al-Qalanisi p. 141 trans. 56, says there were only forty. It is possible that Ibn al-Qalanisi counted only major warships, while Albert gave the number of ships in the entire fleet including transports and small craft.

44. Albert, bk. 9, chap. 18.

45. William of Tyre, *Historia rerum in partibus transmarinis gestarum*, in RHCOcc. vol. 1 (hereafter William), bk. 10 ch. 21. See also translation by Emily Babcock and A. C. Krey, *A History of Deeds done Beyond the Sea*, 2 vols. (New York: Columbia University Press, 1943).

46. Abn al-Athir, *Al-Kamil fi al-Tarikh*, ed. K Tornberg (Beirut: Dar Sader, Dar Beyrouth, 1966 rep.), 12 vols. (hereafter = Ibn al-Athir), vol. 10, p. 345, mentions the sixteen ships. William bk. 10, chap. 26, says that King Baldwin lacked sufficient ships for the siege, but Albert, bk. 9, chap. 15, says that some English ships (from fleet of July 1102) were still in the area to help Baldwin.

47. Albert bk. 9, ch. 15.

48. Ibn Khaldun, *Tarikh al-'Allama (Kitab al-'Ibar)*, (Beirut, Maktaba al-Madrasa, 1959-1961), 7 vols. (hereafter Ibn Khaldun), vol. 4, pp. 143-44.

49. Fulcher bk. 2, chap. 25; William, bk. 10, chap. 28, give seventy Genoese ships, Ekkehard chap. 33.1 says a large fleet; Ibn Taghribardi, *Al-Najum al-Zahira fi Muluk Misr wa al-Qahira*, ed. A. Z. Adawi, (Cairo: Dar al-Kutub al-Misriya, 1929-1956), 16 vols., vol. 5, p. 188 says ninety ships.

50. Ibn Taghribardi, vol. 5, p. 188.

51. Fulcher, bk. 2, chap. 33 and Albert, bk. 9, chap. 50, describe the abortive blockade; William, bk. 11, ch. 3, mentions the twenty-five ships which were washed ashore after the storm.

52. Albert, bk. 10, chaps. 44-47.

53. Albert, bk. 10, chaps. 48-51, Ibn al-Qalanisi, trans. p. 87.

54. Abn al-Athir, vol. 10, p. 454.

55. Albert, bk. 10, chaps. 48-51, Ibn al-Qalanisi, trans. p. 87.

56. Fulcher, bk. 2, chap. 40; William, bk. 11, ch. 9; Albert, bk. 11, chap. 3, all give the number as seventy ships, Caffaro 1:123 says sixty.

57. Ibn al-Athir, 10:475-6; Ibn Khaldun, 4:144-5; Ibn Taghribardi, 5:179-180.

58. Caffaro, p. 169 gives 22 galleys; William, bk. 11, p. 13 mentions that the fleet was Genovese, but gives no numbers.

59. Fulcher, bk. 2, chap. 44; Albert, bk. 11, chap. 26, mention 55 Norwegian ships; Ibn al-Athir, 10:479-80, gives 60 ships.

60. William, bk. 11, chap. 13.

61. Fulcher, bk. 2, chap. 44, Albert, bk. 9, chaps. 32-4; Ibn al-Athir, 10:479-80.

62. Ibn al-Athir, 10:482.

63. William bk. 11, chap. 17 mentions that Baldwin was able to gather only a weak fleet. Albert, bk. 12, chaps. 3-7 mentions twelve Byzantine vessels.

FATIMIDS—No reported naval actions.[64]

1115

CRUSADERS—No reported naval activity.

FATIMIDS—There is an unsuccessful siege and blockade of Jaffa with a Fatimid fleet of nearly seventy ships including transports.[65]

1118

CRUSADERS—No reported naval activity.

FATIMIDS—The Fatimid fleet is active in the region in support of land army, but with no recorded naval engagements.[66]

1123

CRUSADERS—A Venetian fleet of seventy to two hundred vessels arrives in mid-May.[67] This fleet attacks and destroys the Fatimid fleet at Ascalon.[68]

64. Ibn Taghribardi, 5:181-2, explicitly states that the Fatimids made no attempt to relieve the siege.

65. Fulcher, bk. 2, chap. 53, mentions a Fatimid fleet of 'nearly seventy vessels, of which some were triremes, some were beaked ships, and some were freighted with supplies for the undertaking.' William, bk. 11, chap. 24.

66. William bk. 12, chap. 6.

67. Fulcher, bk. 3, chap. 14 gives 120 ships, both supply and warships, but excluding small craft. William bk. 12, ch. 22 mentions seventy-two galleys. A Venetian source says the fleet totaled 200 ships (see F. R. Ryan's translation of Fulcher, p. 238, n. 5). It is possible to reconcile these three figures if it is assumed that there were 200 ships total of all types and sizes, of which 120 were major ships with seventy-two of these being warships and the rest transports.

68. Fulcher, bk. 3, chap. 20. William bk. 12, chap. 22.

FATIMIDS—In early May, a fleet of seventy to eighty vessels is sent to an unsuccessful siege of Jaffa.[69]

1124

CRUSADERS—The Venetian fleet mentioned in the year 1123 blockades Tyre in a successful siege.[70]

FATIMIDS—There is no Fatimid naval activity due to the destruction of their fleet in 1123.

1126

CRUSADERS—No reported actions.

FATIMIDS—A fleet from Egypt of twenty-two or twenty-four galleys and fifty-three support ships raids the Frankish coast and Cyprus.[71]

69. Fulcher, bk. 3, chap. 17, par. 5, for eighty ships. William, bk. 12, chap. 21 for seventy ships.

70. Fulcher, bk. 3, chaps. 27-34. William, bk. 13, chaps. 3-14.

71. Fulcher, bk. 3, chap. 56 mentions twenty-two galleys and fifty-three other ships; William, bk. 13, chap. 20 gives twenty-four galleys.

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Naval Strategy in the First Genoese-Venetian War, 1257-1270

JOHN E. DOTSON

OVER a period of a century and a half from the middle of the thirteenth to the beginning of the fifteenth century Venice and Genoa, the two greatest maritime powers of medieval Italy, fought four major wars. At stake in these wars was control over a substantial portion of the very lucrative Oriental trade. The spices, medicines and luxury fabrics from the Orient, which were such an important source of wealth for the Italian maritime cities, normally passed into the hands of western merchants at a few points along the eastern limits of the Mediterranean sea routes. These entrepôts were found in three areas: 1) at Alexandria in Egypt, 2) (in order of relative importance in the early thirteenth century) at Acre, Tyre, Beirut and several smaller ports in the area that the Italians called Oltremare (Beyond-the-Sea) and 3) in the Black Sea, especially at Caffa in the Crimea and at Trebizond at the southeast corner of the Sea. Should a single European power have gained control of any one of these areas its prosperity would have been ensured. Should one gain control of all three the entire western world would be at its feet. This was, at least, the dream that lay behind the long struggle between the Italian cities.

John Guilmartin has raised the question of whether the concept of control of the sea is a useful one in the context of the system of Mediterranean galley warfare.[1] Though his reference is specifically to the sixteenth century, his arguments are persuasive enough to merit some consideration in the context of an earlier period. First, he says, there are two conditions that must be met before Mahan's concepts of sea power and control of the sea are valid conceptual tools: 'Maritime trade must be vitally important to the nations involved. [And] the technical means of enforcing a blockade must exist.'[2] Galleys, with their limited sea-keeping powers, as Guilmartin notes, could not sustain a blockade. Further, in the sixteenth century, for 'two of the three great Mediterranean powers, Spain and the Ottoman Empire, seaborne commerce was critically important only in a few narrowly delineated areas.'[3] So for the sixteenth century neither of the two conditions which would give the Mahanian model validity was fulfilled.

The situation in the thirteenth century was different in some interesting ways. At least one of the Mahanian conditions was fulfilled to a certainty: maritime commerce was life's blood to both Genoa and Venice. The fulfilment of the second condition is, however, open to question. The galley's sea-keeping qualities did not deteriorate between 1250 and 1500 so that aspect of the question remains constant; the galley was not an effective blockading weapon. On the other hand there were certain factors present, especially in the early thirteenth century, that could make a kind of blockade conceivable, even if it were very difficult to achieve in practice. Absolute control of the sea was impossible, perhaps even inconceivable to naval commanders of that day, but control of certain routes might have been possible and could have achieved the same effect. Certainly the two powers behaved at times as though this kind of control of the sea was their goal. This possibility suggests that a Mahanian analysis of their naval strategy may be a useful approach with which to begin an examination of the first conflict between Genoa and Venice.

Geography, winds and currents in the eastern Med-

1. John F. Guilmartin, *Gunpowder and Galleys: Changing Technology and Mediterranean Warfare at Sea in the Sixteenth Century* (Cambridge, 1974), pp. 16ff.

2. Guilmartin, *Gunpowder and Galleys*, p. 17.

3. Guilmartin, *Gunpowder and Galleys*, p. 19.

iterranean (roughly from Sicily to the Levant) constrained sailing vessels to use certain general routes between the eastern entrepôts and the ports of Italy. Before the end of the thirteenth century this constraint was even more marked because of the restriction of sailing to the months of fine weather between April and October.[4] In fact, shipping was concentrated to an even greater extent than this limitation of the sailing season might suggest because ships sailed in a regular rhythm and tended to keep together. Venetian ships usually left either in the spring, in which case they returned home in the early autumn, or in late summer, when they wintered overseas and returned in the spring. Genoese ships bound for the eastern Mediterranean left in the late summer, wintered overseas and returned in the early summer.[5] This meant that most of the traffic was concentrated in the spring and autumn. The short periods into which most shipping was concentrated until the 1280s tended to minimize the weaknesses of the galley as a blockading vessel in ways I will investigate here. This seasonal rhythm affected even war fleets. During the First Genoese-Venetian War (1257-1270) the fleets never left port earlier than April and always returned by October.[6] In the later wars there was activity year round and it was no longer possible to think of capturing a whole year's commerce in one caravan.

There is a general surface current in the eastern Mediterranean basin that moves from west to east along the coast of North Africa, then north along the Levantine coast before turning west along the southern shores of Asia Minor where it runs strongest very near the coast.[7] In the summer months the prevailing winds between Crete and Alexandria are from the north or northwest.[8] This forced ships sailing from Alexandria to Italy, laden with valuable Oriental wares, to travel north to Cyprus or Rhodes before turning west to pass to the north of Crete, thence to the Adriatic and Venice or to the Straits of Messina and Genoa.[9] The same currents and winds carried traffic from Oltremare through the southern Aegean, into the Ionian Sea, before it could travel up the Adriatic or into the Tyrrhenian Sea to the Italian ports.

Another current flows out of the Black Sea, through the Bosphorus, the Sea of Marmora and the Dardanelles, south through the Aegean Sea to Crete. In the Ionian Sea the current is generally northward, though it is rather weak. In the Adriatic the current is counterclockwise, flowing generally northwestward along the Dalmatian coast and southeastward along the Italian coast. The combination of this current with the phenomenon of the *bora*, the sudden, strong northeast wind that sweeps straight across the Adriatic and can blow a sailing ship onto the Italian coast, caused shipping travelling toward Venice to keep close to the Dalmatian side.[10] This had the effect of creating an important strategic narrows inside the Strait of Otranto. The *bora* is particularly strong and dangerous in winter.

A glance at a map, with consideration for these currents and wind patterns and their resultant effects on the paths of sailing vessels, will show that there are certain narrow passages that must be traversed by either merchant ships sailing from the Oriental entrepôts or by war fleets operating in the eastern Mediterranean. (See Map I.) Because galley fleets lacked the capacity to be victualed for long periods at sea, the strategic use of these narrows to restrict an opponent's mercantile traffic or to force an engagement on his battle fleet was greatly enhanced if a suitably situated port could be used as a base of operations in the area. For this reason the Bosphorus, dominated by the great port of Constantinople, was an especially sensitive area.

4. F. C. Lane, 'The Economic Meaning of the Invention of the Compass,' *American Historical Review*, LXVIII (1963), reprinted in *Venice and History* (Baltimore, 1966), p. 333f. and 340f. Citations here are to pages in *Venice and History*.

5. Lane, 'Compass,' p. 334.

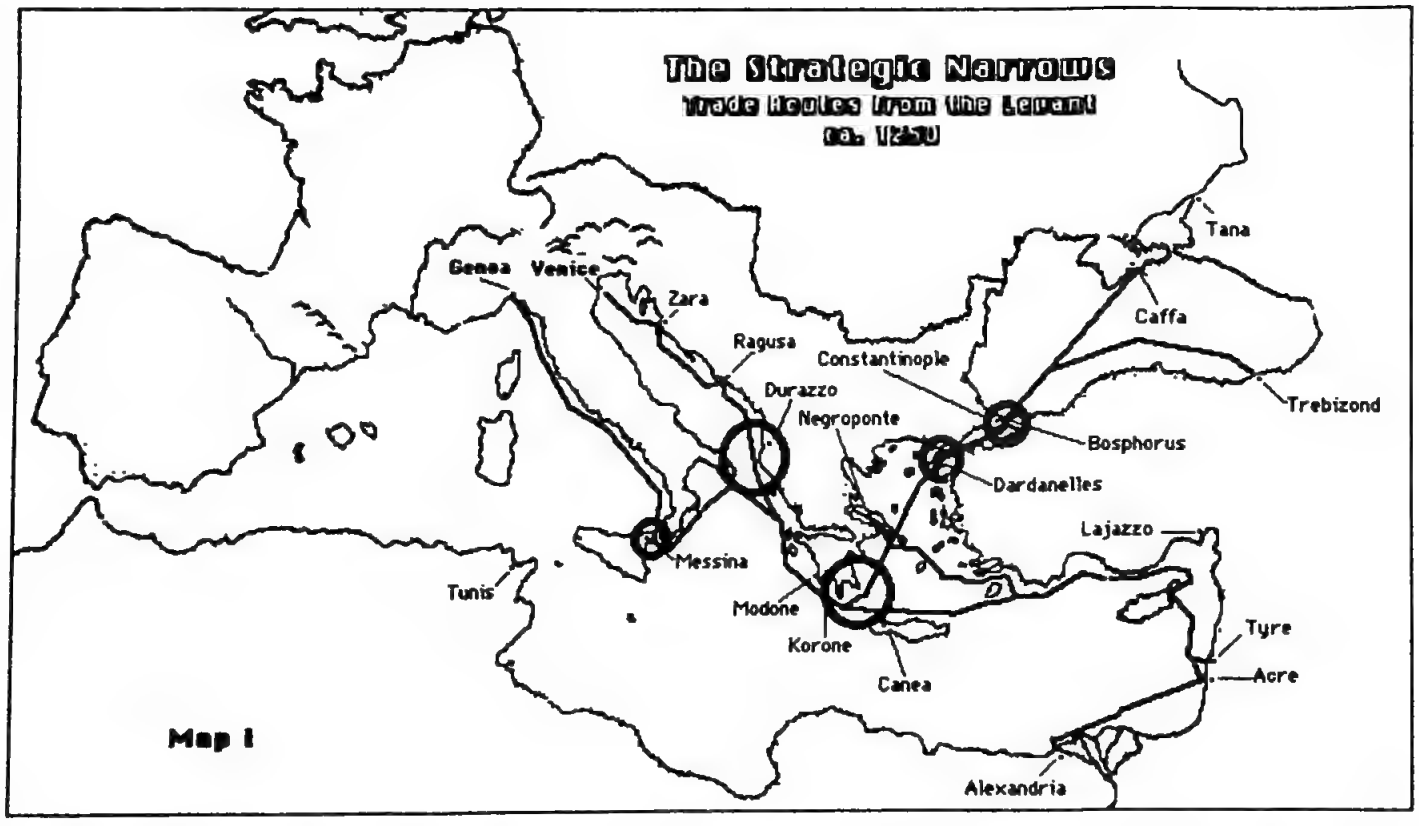
6. This was certainly true of the Genoese fleets and of those Venetian fleets whose departure and return dates I have been able to confirm.

7. A. LeGras, trans. by R. H. Wyman, *General Examination of the Mediterranean Sea* (Washington, Bureau of Navigation, Hydrographic Office, 1870), p. 133, 157ff.

8. LeGras, *Mediterranean*, p. 130f.

9. Cf. Lane, 'Compass,' p. 336. During the summer the winds along the Syrian coast are also generally from the northwest, but they are much less steady and subject to considerable local variation. Taken with the northward current this makes the Alexandria-Cyprus or Rhodes route practicable. It is true that toward the end of September through the early part of December east winds can be expected off Alexandria and from late February or early March to early June south winds prevail. Both these make it possible to take the direct route from Alexandria southwest of Crete to Italy. [LeGras, *Mediterranean*, p. 131.] However, these favorable winds blow during the months of bad weather and cloud cover that made navigation by the stars unreliable and this route takes a ship onto open sea so that coasting from headland to headland is not possible. This route did not become practical until the use of the compass became common in the last decades of the thirteenth century, making it possible to navigate with some accuracy in the cloudy winter months.

10. LeGras, *Mediterranean*, pp. 161ff., 171, 182.



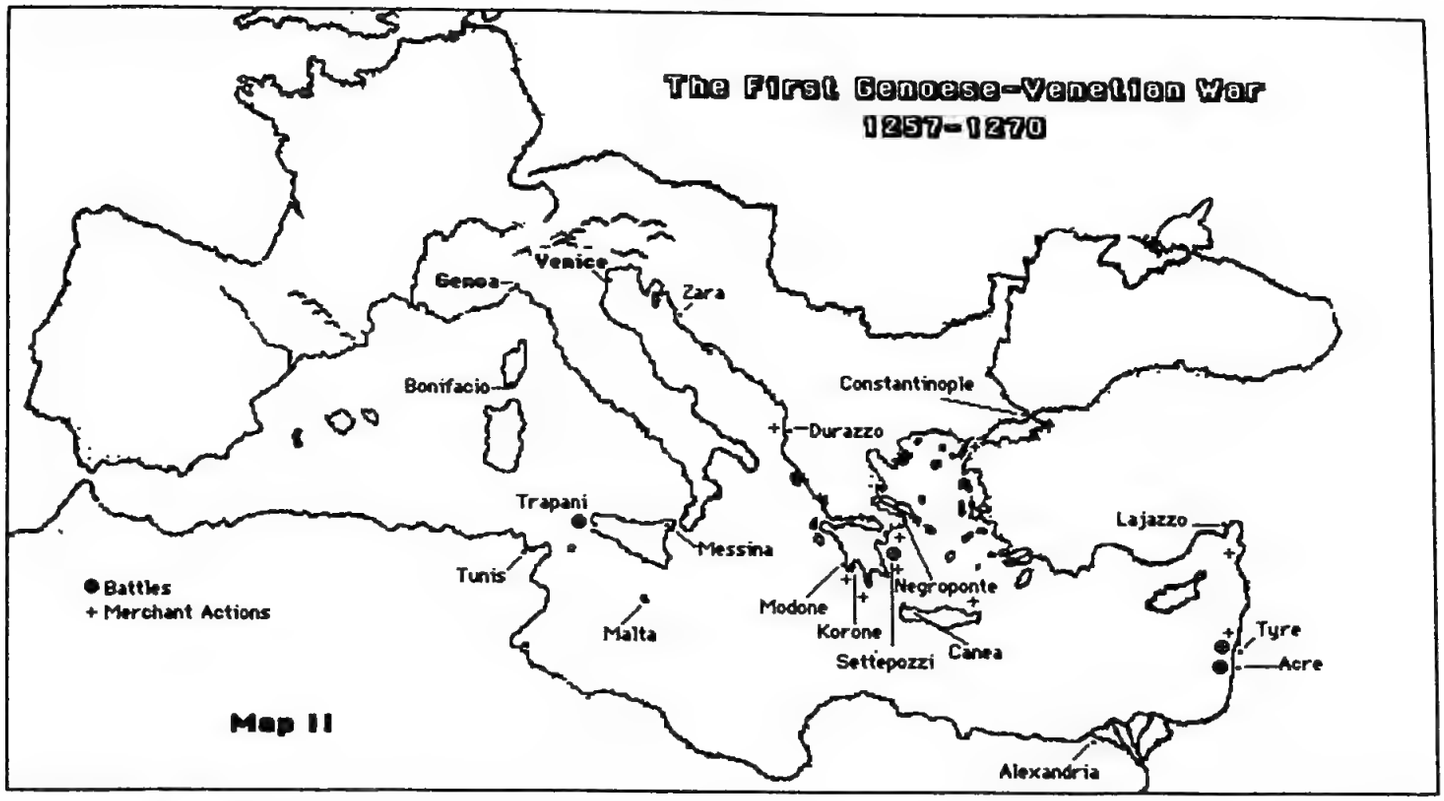
Other strategic narrows were found at the Dardanelles, between the Peloponnesus and Crete, along the northeast shore of the Adriatic and at the Strait of Messina.

Thus, concentration of shipping was caused geographically by islands and straits, currents and winds. Seasonal concentration was caused by the difficulties of navigating in winter even more than the dangers of winter storms. As a result, a fleet could expect to find a merchant 'caravan' in a few places within a few relatively short time spans. Naval commanders also preferred to intercept the caravans as they returned from the east, rather than outbound, because the prizes were much richer. Under these conditions, needing only to patrol, or operate from beaches or captured small ports, for a few weeks at a time galley fleets could have an enormous impact on merchant shipping, despite their inherent limitations. The effects of these narrows on naval activity is graphically illustrated by a map which locates the major battles and commerce raiding incidents of the war. (See Map II.)

Absolute control of the Alexandrian trade was outside the realm of possibility for a western state. Direct conquest of Egypt was attempted during the Fifth Crusade at the beginning of the thirteenth century and again by Louis IX in his first crusade at mid-century. Both attempts ended disastrously for the would-be conquerors. Control of the routes to and from Alexandria would also have been very difficult, though control of Crete before the late thirteenth century could have placed a naval power in a good position to put pressure on the routes from Alexandria, since, as we have seen, the normal summer route from Egypt to Italy went northward to Rhodes then west through the relatively narrow seas north of Crete. During the First Genoese-Venetian War it was the practice of the Venetians to consolidate their caravans from Romania and Alexandria at Negroponte before proceeding north of Crete to home waters." Possession of these islands was of great importance to Venice.

The role of the Italian cities in the crusading movement ensured that no one of them would be absolutely predominant in Oltremare. Though there might be an

11. Lane, *Venice, A Maritime Republic* (Baltimore, 1973), p. 76.



imbalance of power in one or another of the Levantine ports the multiplicity of ports made control of all of them unlikely. Again, Crete was well positioned to influence trade from Oltremare for the same reason that it could be a pressure point for the Alexandrian trade.

The most vulnerable of the eastern markets, however, was the Black Sea with its terminus of the silk road at Tana and of spice routes at Trebizond. From these ports to Italy the maritime routes pass through the very narrow Bosphorus and Dardanelles as well as the various narrows of the Aegean Sea. Control of both the Bosphorus and Crete was one of the foundation stones of Byzantine prosperity in the early Middle Ages.[12] Since the late eleventh century Venice's close relationship with Constantinople allowed her to share this advantage. After 1204 the dependence of the Latin Emperors and the acquisition by Venice of Euboea, Crete, the Peloponnesian ports of Korone and Modone and other strategically located islands and ports increased that advantage. The Genoese alliance with Michael Paleologue, who recaptured Constantinople in 1261, gained them a foothold on the Bosphorus. Their settlement in the suburb of Pera on the Golden Horn gave them a base from which to aspire to control over the Black Sea trade. For a time in the early fourteenth century, they would virtually achieve this control.

Additionally, both Genoese and Venetian ships had to pass through straits before reaching the relative safety of home waters. The Genoese had to pass the Strait of Messina to gain the Tyrrhenian Sea and the Venetians had to negotiate the passage up the Adriatic. At these points their traffic was vulnerable. In practice, though, the long passage up the Dalmatian coast turned out to be much more vulnerable than the Strait of Messina. This was due to a number of factors, but especially to the differing strategies followed by the two cities in the first war. The Venetian practice of transporting virtually an entire year's trade in a single convoy meant that the interception of one of those convoys would have an enormous impact. It would, in fact, be the equivalent of a successful year's blockade. This suggests that the capture of an annual convoy was something more serious than is usually implied by the term commerce raiding.

12. A. R. Lewis, *Naval Power and Trade in the Mediterranean World* (Princeton, 1951), p. 212.

Competition among the Italian maritime states in the eastern Mediterranean was largely three-cornered until the middle of the thirteenth century. A kind of peace was maintained between Genoa and Venice because Pisa was a threat to each of them. Pisa's power depended largely upon that city's special relationship with the Emperor Frederick II. After his death the Tuscan city, squeezed between Genoa at sea and Florence on land, seemed distinctly less dangerous.[13] Relations between Venice and Genoa became increasingly tense. This was especially so between their respective communities at Acre, the chief port of Oltremare. A quarrel over possession of a church, a murder and a riot in which the Genoese residents of Acre plundered Venetian possessions there provided the immediate occasion to begin the first war between the two maritime cities. Genoa was at war with Pisa in the Tyrrhenian over domination of Sardinia, so that Venice and Pisa were natural allies.[14] Genoa found support from some of the local barony and, especially important for them, from Philip of Montfort, ruler of Tyre.

In the early years of the war the efforts of both cities were concentrated at the point of dispute. Their common strategy seems to have been simply to expel their opponent from Oltremare in order to gain control of the markets there. A Venetian fleet of fourteen galleys,[15] which accompanied their annual caravan to Oltremare in 1257, attacked the Genoese in Acre and forced them to shift their main base of operations to nearby Tyre. Later that year a surprise attack on Tyre defeated the very badly handled Genoese fleet there, but did not force them from the city. In 1258 the Genoese attempted a relief of their besieged supporters in Acre. The failure of this effort caused the last of their supporters to leave that city. There things stood for a time, with the Venetians firmly in control of Acre, but unable to expel the Genoese from Tyre so long as the local ruler supported them.

The tactical ineptitude displayed by the Genoese in the major fleet actions of their first war with Venice is remarkable. They were not new to war on the sea, but the performance of their admirals in four major actions from 1257 to 1266 invariably shows either a fatal timidity or an utter clumsiness. In the first action at Tyre they had rushed to their galleys and into battle 'tumultuously and without any planned formation,' in the words of the Genoese chronicler of the event.[16] At Acre in 1258, though strategically on the offensive, and though they had caught the Venetians and their Pisan allies unawares, and though they were numerically superior by something like forty-eight galleys to forty, and though the enemy fleet was disorganized by weather when they did finally emerge from the port, the Genoese admiral stood tactically on the defensive and suffered a loss of almost half his fleet.[17] Later, in 1263, in a chance encounter near Settepozzi, yet another numerically superior Genoese fleet was defeated when more than half their force refused to engage the enemy.[18] In 1266, near Trapani in Sicily, the Genoese admiral, despite advice to the contrary by his war council, disposed his fleet in the classic defensive position of galley warfare: chained together close to shore, prows outward. At the first sign of defeat the crews panicked and many tried to swim to the safety of land with the result that all twenty-seven galleys of the fleet were captured or destroyed.

Strategically and diplomatically the Genoese were much more successful. The alliance with Michael Paleologue in 1261 gave them considerable trading rights in Romania in return for their help in expelling from Constantinople the Latin emperor and his Venetian protectors. In the event, their help was not needed and by 1268 the Venetians were readmitted to trading privileges in the empire, though never again with the advantages they had previously enjoyed.[19] Still, the Genoese now had a foothold on the Bosphorus and in the Black Sea. They would assiduously seek to expand this advantageous position.

Meanwhile the Genoese attacked Venetian mercantile shipping with a good deal more success than the fleet actions had brought them. The Venetians re-

13. Lane, *Venice*, p. 73.

14. Much of the time during their wars, either Venice or Genoa, or both of them, were engaged in parallel struggles with other powers. In the interest of brevity and in order to focus attention on the problem at hand I will not usually consider these other conflicts here.

15. *Annali Genovesi di Caffaro e dei suoi continuatori*, Giovanni Monleone, trans., VI, p. 68. Cf. Georg Caro, *Genova e la supremazia sul Mediterraneo (1257-1311)* (Italian edition, *Atti della Societa' Ligure di Storia Patria*, N.S. vols. XIV & XV [LXXXVIII & LXXXVIX], Genova, 1974), I, p. 40. Rather than repeat all the usual warnings about variations in medieval numbers each time the size of various fleets is mentioned, I will simply indicate once here that different sources almost always give different figures for the size of fleets. The numbers used here should be regarded as approximations. Caro notes that other sources give the number of Venetian galleys as thirteen. The difference is not crucial and the situation is similar in most instances.

16. *Annali Genovesi*, VI, p. 61.

17. Caro, *Genova e la supremazia*, I, p. 75.

18. *Annali Genovesi*, VI, p. 91f. Settepozzi = modern Spetsai.

19. Lane, *Venice*, p. 75f.

sponded by detailing most of their warships to convoy large merchant fleets.[20] This concentration of Venetian merchant shipping made the successful interception of one of these fleets, as was earlier observed, tantamount to successful blockade. And the Genoese did have several remarkable successes. In 1262, near Abydos in the Dardanelles, their fleet based at Constantinople operating in cooperation with the Greek fleet captured a large nef and three galleys carrying that year's Venetian trade from the Black Sea.[21] In 1263, off Malvasia, four large *taride* loaded with supplies and merchandise were captured by the survivors of the battle at Settepozzi.

But, the most successful blow by far at Venetian merchant shipping was the result of careful planning by the Genoese admiral Simone Grillo. In June 1264, a fleet of twenty galleys and two nefs put out from Genoa ostensibly on their way to the east. Instead, Grillo went to Malta where he waited several days before sending three of his galleys and the two nefs to trade on the Barbary coast. One galley was sent to Constantinople and the remaining sixteen proceeded to the vicinity of Durazzo where they awaited the Venetian merchant convoy returning from Oltremare and Alexandria.[22] The Venetians fell for the ruse and sent their fleet of forty-four galleys to the east after Grillo.[23] Grillo successfully intercepted the Venetian convoy which consisted of one very large nef, the *Roccafortis*, and eighteen or nineteen smaller vessels. By virtue of its large size the *Roccafortis* proved impossible for the Genoese galleys to take when the merchants of the fleet took refuge on it. All the other vessels, however, were captured with a loss to Venice amounting to a whole year's trade.[24] This does seem very close to a blockading action.

During 1265 there were no major battles, but both cities claimed some success in taking single vessels.[25] In 1266 the Genoese again organized a fleet to attempt a repetition of their success of 1264. Venice replied by sending a fleet into the western Mediterranean to preempt the Genoese action. In the resulting fight at Trapani the Venetians succeeded in destroying the Genoese fleet, but the Genoese immediately launched another twenty-five galleys for the same purpose.[26]

The new fleet, under the command of Obertino Doria, proceeded to the mouth of the Adriatic where it cruised in wait for the Venetian caravan. When only a few small vessels were found there Doria made a raid on the Venetian settlement of Canea on the island of Crete, burning and looting it. Canea was very well situated to support the rendezvous point for the caravans at Negroponte. At the same time, while operating in this area Doria had a good chance to intercept the caravan in the waters between Crete and the Peloponnesus.

Finally, off Modone, he found the merchant fleet he had hoped for: twenty-eight large merchant vessels and twenty-six smaller ones. However, by this time the Venetians had been able to provide their convoy with an escort of thirty-two galleys, a force considerably superior to the Genoese fleet. Doria chose prudence and did not engage them, satisfying himself with the loot from Canea.[27] A small privateering flotilla of three galleys and a *saetta* did, however, capture a straggler from the Venetian caravan near the eastern end of Crete in October of that year.[28]

The Genoese strategy of attacking the Venetian caravans was successful so long as their escorts could be overwhelmed or lured away. In 1266 the Venetians had provided a very powerful escort amounting to a full battle fleet and put it under strict orders from the Doge to remain with the convoy.[29] Given the demonstrated Venetian tactical superiority at sea there would seem to have been no way for the Genoese to successfully continue their efforts to cut Venetian commerce by interception of their caravans while the Venetians continued to guard them so heavily. The loss of single ships would certainly continue, but could not be so serious as the loss of a caravan. At the same time, with their war fleet tied down as convoy escort, the Venetians could pose no real threat to Genoese shipping. By 1266 a stand-off seems to have been reached. Still, on the

20. Lane, *Venice*, p. 76f.

21. *Annali Genovesi*, VI, pp. 87ff.

22. *Annali Genovesi*, VI, pp. 97ff.

23. Lane, *Venice*, p. 77. *Annali Genovesi*, VI, pp. 101f.

24. Lane, *Venice*, p. 77. According to the *Annali Genovesi*, VI, pp. 100f, the loss to the Venetians amounted to £100,000 *genovini*, while the Genoese treasury profited £30,000 *genovini* from the sale of prizes and booty. The Venetian fleet had to content itself with the capture of the Genoese nef *Oliva*, loaded with silk, in Tyre harbor. The sale of the *Oliva* and its cargo brought them 11,000 hyperpers, but the loss to the Genoese was made good by the lord of Tyre from Venetian merchandise which he confiscated and from his own funds (*Annali Genovesi*, VI, p. 102).

25. *Annali Genovesi*, VI, pp. 121ff.

26. Caro, *Genova e la supremazia*, I, p. 186.

27. *Annali Genovesi*, VI, p. 158f. Caro, *Genova e la supremazia*, I, pp. 186f.

28. Near the small island of Dragonada. *Annali Genovesi*, VI, p. 161. Caro, *Genova e la supremazia*, I, p. 188. Lane, *Venice*, p. 77.

29. Caro, *Genova e la supremazia*, I, p. 188.

whole it appears that the Genoese attacks on commerce were more damaging than the Venetian successes in fleet actions.[30]

Michael Paleologue's moves toward neutrality in the conflict in early 1267 made operations in the Aegean inadvisable. The Venetians did not want to disturb their chance to regain their losses in Romania and the Genoese did not want to lose more, so the theatre of action shifted back to Oltremare. In 1267 the Genoese made no attempt to attack the Venetian convoy, but instead returned to the attack at Acre by establishing a close blockade of the port. With a galley fleet this could only be done by first seizing a beach-head, in this case a fortified tower. From this point the Genoese were able to prevent any vessels from entering or leaving the port of Acre while they laid siege to the city. But, it proved impossible to maintain the blockade in the face of a Venetian fleet which arrived in August and the Genoese withdrew, first to Tyre and then to their home port.[31]

For some time there had been considerable concern among other Latin powers about this war in the very vulnerable area of Oltremare. The papacy and Louis IX of France, in particular, wanted peace in order to further their projected crusade. Finally, by 1270, a combination of threats and an offer of lucrative contracts for transportation of the crusaders succeeded in bringing about an end to the war.

In the early years of the war the Venetians had been able, by a combination of successful fleet actions and cooperation with local powers, to drive the Genoese out of Acre, but not out of Tyre where they had local support. The Venetian strategy aimed at driving the Genoese out of Oltremare could not succeed so long as the Genoese had supporters there. The Genoese, having failed in every fleet action of the war, had some success in the 1260s in their attempts to damage Venetian commerce, but proved unable to stop a heavily defended convoy. The Mahanian elements are there, but divided: Genoese success at blockade was offset by Venetian superiority in battle. In fact, we may doubt whether either side had yet formulated a clear idea of control of the sea. The Genoese seem closer to it than the Venetians, but unable to carry it out because of their clear tactical inferiority. Certainly after the coming of year-round navigation at the end of the thirteenth century the possibility of exercising something like Mahanian control of the sea would no longer be conceivable for galley fleets.

[A version of this paper was read at the Seventh Symposium on Naval History sponsored by the History Department of the U.S. Naval Academy at Annapolis, Maryland, on 26-27 September 1985.]

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30. Lane, *Venice*, p. 76.
31. Caro, *Genova e la supremazia*, I, pp. 198f.

Ships and Fleets in Anglo-French Warfare, 1337-1360

TIMOTHY J. RUNYAN

THE most consuming military and naval conflict of later medieval Europe was the Hundred Years' War. Beginning in 1337 and continuing until 1453 this struggle involved most of the states of western Europe although the principals were England and France. Edward III claimed the French throne by right of inheritance intending to remove the newly established Valois dynasty as usurpers. Dynastic claims or consequent ties of vassalage, however, were not the precipitating factors in the outbreak of war. Researchers over the past few decades have emphasized much more strongly the role of England's possessions in France, especially Gascony, to explain the origins of the war.[1] This approach recognizes the economic and strategic importance of English possessions and control in France as compelling factors in Edward III's decision to initiate the conflict. French encroachments and claims on Gascony and other English possessions struck at the heart of Edward's state—a kingdom which was transmarine.[2]

Naval conflict in the English Channel and elsewhere between the French and their allies and the English was not a sudden result of the actions of 1337. Undeclared warfare at sea is the best description of the state of naval and mercantile relations between these parties extending back at least to the reign of Edward I at the turn of the century. Merchants frequently pirated or were pirated with the excuse that the other parties were the enemies of France or England. Truces seem to have been conveniently forgotten and suits to the crown were often the recourse.[3] These appeals remain our record of these piratical raids. They were, in effect, crimes of convenience with convenient excuses generated to justify plundering.

The solution achieved at some point in the late thirteenth or fourteenth century to help abate this problem was the introduction of convoys. These were especially successful in the English wine trade routes to Gascony. Larger fleets of merchants often escorted by royal ships filled with men-at-arms could deter individual raiders or even small pirate fleets.[4] But not all merchants could afford or were prepared to wait for the cumbersome process of gathering a fleet at a designated port, awaiting royal escorts to join them and then sailing a prescribed course to Bordeaux or elsewhere. Many shipowners preferred to push on with their trade and risk encounters with French merchants *cum* pirates. The same held true for the French, although they were not as active in the trade of wine or wool which was so important to the English economy.

It is perhaps convenient to rethink at this point the value of seaborne commerce to the royal economy. English trade in wine and wool as measured by the customs accounts and extant shipping records show this to be a major source of crown revenue.[5] The in-

1. G. P. Cuttino, 'Historical Revision: The Causes of the Hundred Years' War,' *Speculum*, XXXI (1956), 463-77 and his *English Diplomatic Administration, 1259-1339*, 2nd ed. (Oxford, 1971). John Le Patourel, 'The Origins of the War,' in K. Fowler, ed., *The Hundred Years' War* (London, 1971), pp. 28-50. P. Chaplais, 'La Souveraineté du roi de France et de pouvoir législatif en Guyenne au début du xive siècle,' *Le Moyen Age*, LXIX (1963), pp. 449-69.

2. This view is an expansion of those by John Le Patourel in his articles: 'Edward III and the Kingdom of France,' *History*, XLII (1958), pp. 173-89 and 'The Plantagenet Dominions,' *History* (1965), pp. 289-308.

3. For notice of the *Cristemasse*, pirated by men of Bristol, see *Calendar of Close Rolls (1337-1339)*, p. 88. (Hereafter cited as *CCR*.) Simon de Rathby, master of the *Escumer*, was recorded plundering and murdering merchants off the Isle of Wight, *Calendar of Patent Rolls (1343-1345)*, p. 388, hereafter cited as *CPR*. The *Tarete*, bound for Flanders, was robbed and boarded by members of the king's fleet. Edward III agreed to compensation and held responsible the owners and masters involved. *CPR (1340-1343)*, p. 538.

4. For example, ships were escorted to Bordeaux. Public Records Office (London), Exchequer Accounts, Issue Rolls, E. 403/555 m. 44.

5. See Robert L. Baker, *The English Customs Service, 1307-1343: A*

terruption of this trade and thus a resultant decline in customs revenue was a matter of serious consequence to the treasury and therefore of the ability of Edward III to wage war unless this revenue could be replaced in other ways.[6] So-called control of the seas, therefore, is a meaningful term for this period if limited to a definition which signifies the capacity of seaborne commerce or the transport of troops to continue to move unobstructed by pirates or enemy fleets. We are frequently told that this control was greater than that which I have defined here and was in the hands of the English after 1340 when they won the great battle of Sluys. Careful review of the records, however, reveals quick retaliation and raiding by the French. The ports on the southern coast of England were raided as they had been in the 1330s and attacks on the routes to Gascony in the Bay of Biscay continued.[7]

It is true that major expeditions were launched in the 1340s against the French coasts by large flotillas, but this did not require command of the seas. It would have taken an equally large flotilla of several hundred ships to intercept the English expeditions of 1342-1343 and 1346. While we focus on the resultant victories on land at Crécy in 1346 or Poitiers in 1356, we must not lose sight of the achievement involved in moving men, horses and supplies to the Continent. Again, the French retaliated and these three great victories of the early phase of the war were soon forgotten when conditions soured and a truce was signed at Brétigny in 1360 much to the dissatisfaction of the English.[8] Followed by a peace which lasted to 1369, this lengthy interruption of the war resulted in its shift south into Iberia and back onto the seas where royal standards were replaced with the banners of merchants and pirates.[9]

What this overview of the period 1337-1360 fails to account for are the numerous privately owned sailing vessels which continued to ply the waters of the northern seas, the Channel and Bay of Biscay, unimpeded by the conflict. No comment is made on the extent of mercantile traffic, the size and types of vessels involved or questions of ownership and impressment when demanded by the crown. What is missing is the story related by the history of a single ship, a mini-biography or prosopographical study of the known vessels to generate an example to serve as a window into this era. In an effort to produce such a study I undertook a comprehensive computer-assisted study of English ships during this important first phase of the Hundred Years' War, 1337-1360. After enrolling 1,291 entries of ships for this period the list is not comprehensive; there remain numerous other references to be added. This has prevented the compilation of the ship biographies which I hoped to produce, but the survey did generate interesting data about ships and mariners during this phase of the Hundred Years' War.[10]

Study of Medieval Administration, Transactions of the American Philosophical Society, N.S.56, pt. 6 (Philadelphia, 1961), Appendix I for wool exports. For the volume of trade and revenues, J. H. Ramsay, *A History of the Revenues of the Kings of England, 1066-1399* (Oxford, 1925) gives a breakdown of income sources. For information on expenses at this time see M. M. Postan, 'The Costs of the Hundred Years' War,' *Past and Present*, XXVII (April 1964), pp. 34-53. For naval implications, see J. W. Sherborne, 'The English Navy: Shipping and Manpower 1369-1389,' ibid., XXXVII (July 1967), pp. 163-75. On the wine trade, M. K. James, 'Fluctuations in the Anglo-Gascon Wine Trade during the Fourteenth Century,' *Economic History Review*, 2nd series, IV (1951). For wool, see T. H. Lloyd, *The English Wool Trade in the Middle Ages* (Cambridge, 1977).

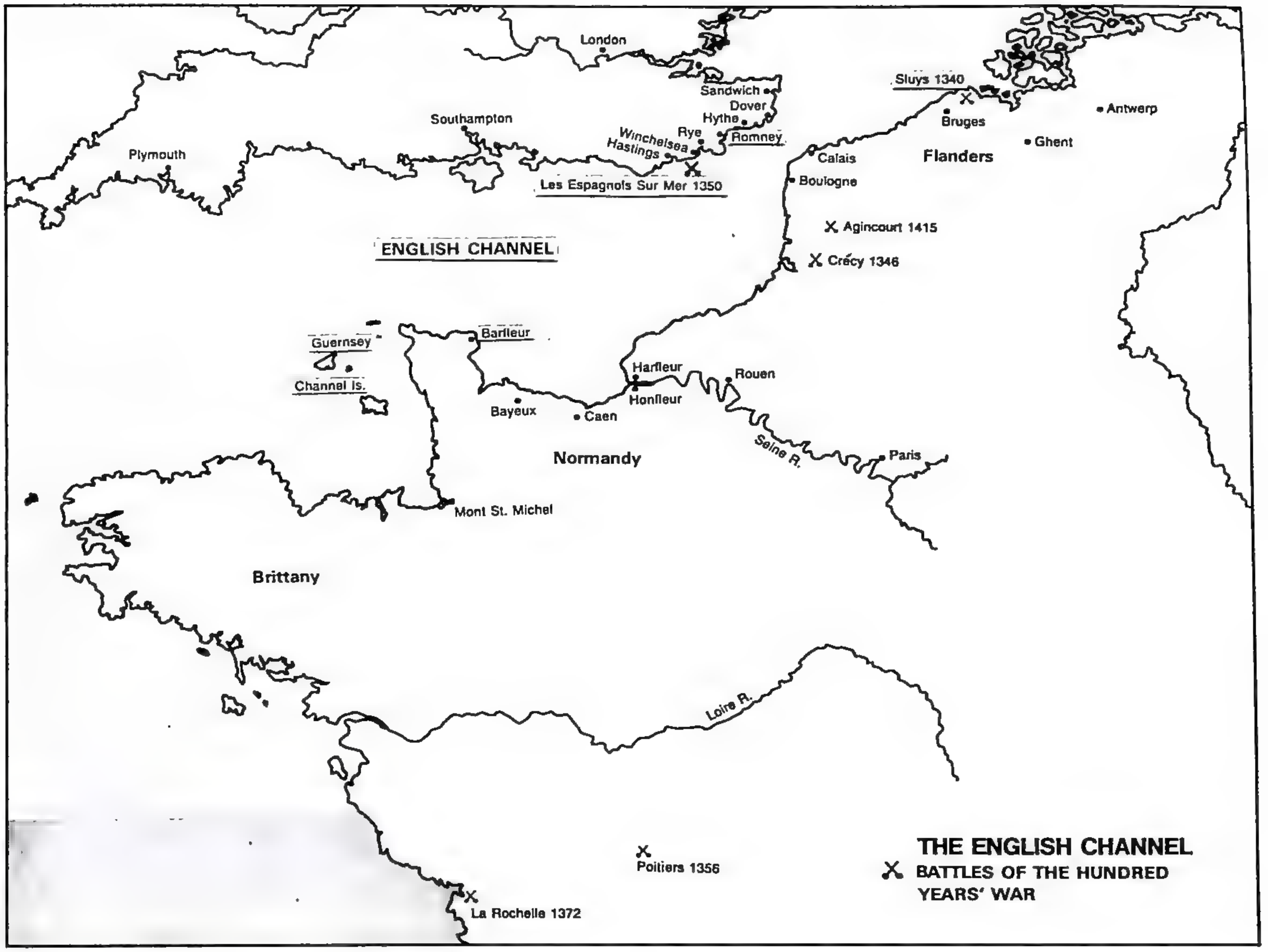
6. For financial implications see the work of E. B. Fryde including his 'Materials for the Study of Edward III's Credit Operations, 1327-1348,' *Bulletin of the Institute of Historical Research* XXII (1949), pp. 105-38; XXIII (1950), pp. 1-30.

7. Before the Battle of Sluys the French had considered a full scale invasion of England. This plan of 1339 is found in British Library, Harleian MS. 3836 and is printed in T. Twiss, ed., *Black Book of the Admiralty* (4 vols.; London, 1871-1876), I, pp. 420, 426-27. In July 1342 an English fleet commanded by the Earl of Northampton lost four ships to a Spanish fleet while crossing to Brittany. P.R.O., E. 101/24/8; 9 (6), m. 26; Henrici Knighton, *Chronicon*, ed. J. Lumby, Rolls Series (2 vols., London, 1889-1895), II, pp. 27-28.

8. The settlement followed the disastrous campaign of 1359-1360. On the treaty see J. Le Patourel, 'The Treaty of Brétigny, 1360,' *Transactions of the Royal Historical Society*, 5th series, X (London, 1960), pp. 19-39; P. Chaplais, 'Some Documents Regarding the Fulfillment and Interpretation of the Treaty of Brétigny,' *Camden Miscellany*, 3rd ser., XIX (1952).

9. This activity is noted by P. E. Russell, *The English Intervention in Spain and Portugal in the Time of Edward III and Richard II* (Oxford 1955), especially chapters I and XI.

10. The project is CMS/SAS based with a program designed to record entries of a ship's name, home port, size, owner, master, whether or not the vessel belongs to the king's fleet, crew size, general information concerning its activities, the source of the reference, and additional information. It should be clear to the reader that this data is not without problems of purity. Included here and in the following discussion of home ports, are all references to ships from the *Calendar of Close Rolls* and *Calendar of Patent Rolls* for this period. In some instances a ship may be entered more than once. There are many *St. Mary*s for instance, and it is not always possible to tell if the *St. Mary* with no master, size or home port given, is the same ship as say the *St. Mary* of Lynn which was ordered to join the king's fleet at Southampton under the command of William Alfen *(C.C.C. 1350-54*, 52). My survey is not comprehensive enough to date to eliminate such repetitions and ascertain the exact number of discrete vessels there are among the 1,291 entries. Given this significant caveat, I believe the analysis to be of value, but only if considered within a broad context. The reader should be well

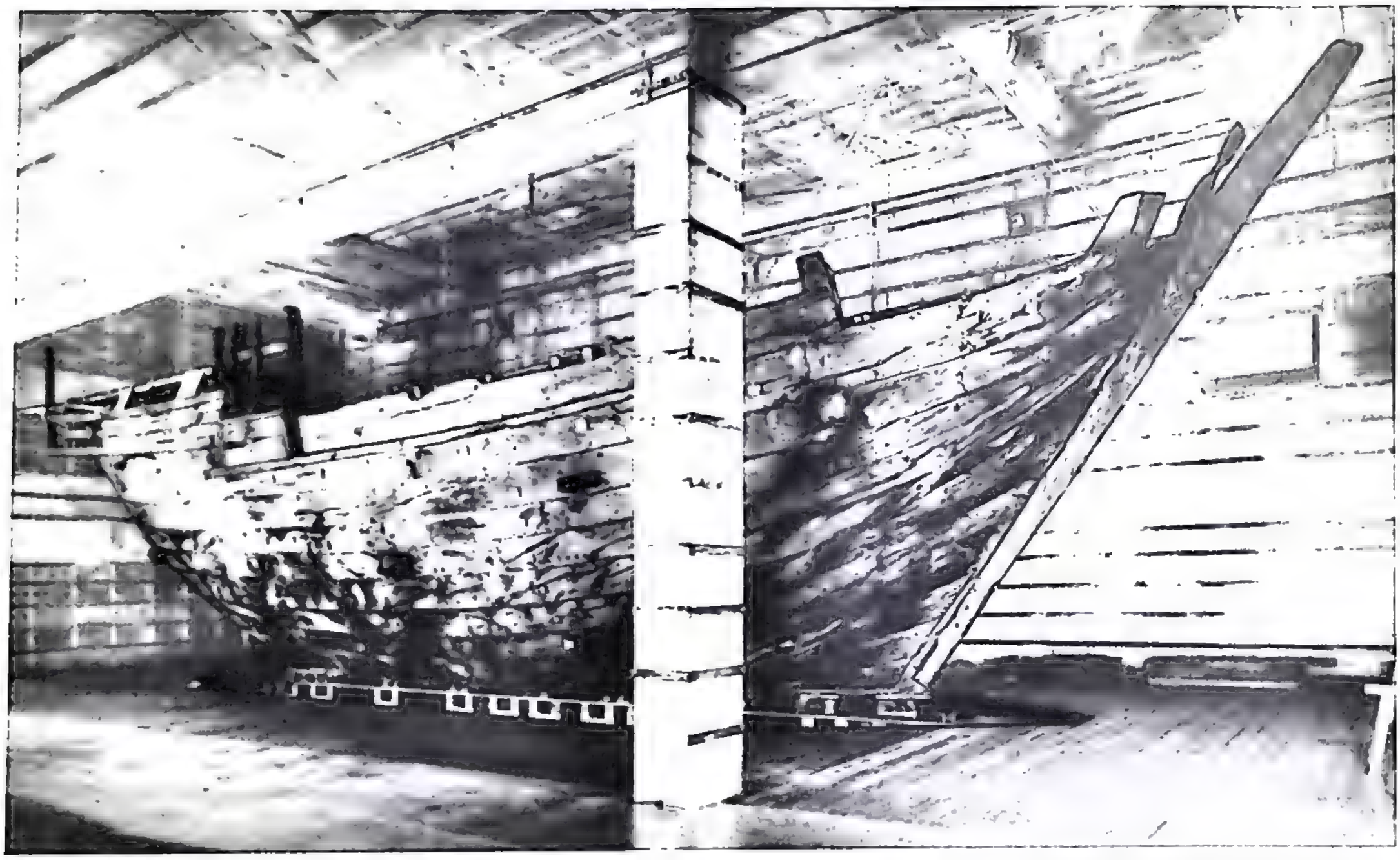


(Courtesy of T. J. Runyan and J. M. Ludwig.)

The list of vessels includes 965 which are not identified by type. The remainder are identified by type as follows: 1 buss, 2 flunes, 2 galiots, 2 hulks, 3 doggers, 3 lodships, 5 crayers, 5 spinaces, 6 galleys, 7 carracks, 12 barges, 12 nefs, 13 tarites, 19 boats, 46 ships, and 187 cogs. This last vessel, the very important cog, constitutes 57 percent of the 325 vessels identified by type. Working vessels such as barges only constitute 3.7 percent of those identified and balingers are not even mentioned in this survey.[11]

aware of the frailty of the numbers and percentages noted in the following pages for these reasons. By way of further example, there are 57 entries for ships named *La Nicholas*. This is understandable since St. Nicholas was the patron saint of sailors. But it is not possible to determine how many discrete vessels there were named *La Nicholas*. For their assistance with the design of the computer program and compilation of ship references, I would like to thank Daniel Morris, William Harris and Claudia Benko.

11. On ship types from contemporary references, see B. Sandahl, *Middle English Sea Terms*, 3 vols. (Uppsala, 1951-1982) and R. W. Unger, *The Ship in the Medieval Economy* (London, 1980), chap. 4; I. Friel, 'Documentary Sources and the Medieval Ship: Some Aspects of the Evidence,' *International Journal of Nautical Archaeology and Underwater Exploration* XII, 1 (1983), pp. 41-62. For the significance of certain ship types, see J. W. Sherborne, 'English Barges and Balingers of the Fourteenth Century,' *Mariner's Mirror* 63 (May 1977), pp. 109-14. More extensive work on ship types from illuminations is included



The Bremen cog of about 1350 is clinker built with a stern-post rudder. At about 77′ (23.5 m) in length and 23′ (7 m) amidship, it was rated about 130 tons. The cog was found in the Weser River in 1962 and is currently in a tank undergoing chemical treatment to ensure her preservation. (Courtesy of Deutsches Schiffahrtsmuseum, Bremerhaven.)

A number of observations can be made about these numbers but nothing can detract from the impressive number of cogs which are noted here. We must recognize that most ships used for naval operations were impressed merchant ships which may or may not have been refitted for service. In fact, of the 1,291 ship entries only 31 are identified as the king's ships. These vessels are generally purpose-built for warfare with fore- and rear-castles and fighting tops. It is also probable that many of these were refitted for war at sea—many impressed vessels underwent extensive carpentry work to make them fit as horse and troop transports or men-of-war as indicated by exchequer accounts in the Public Records Office where notice of payments to ship carpenters is made. Most entries, however, are for the repair and refitting of vessels already designated as king's ships.

A final observation drawn from the ship survey of nearly 1,300 vessels concerns the home ports of the vessels. The survey was broken down into home ports and from this the number of vessels from individual ports or regions can be analyzed. In this instance only a few comments are relevant to the conduct of the war. Most noticeable is the clear emergence of ports from north of the Thames to the Humber and the south-western coastal towns as important suppliers of ships for trade and war. Registrations from the principal members of the Cinque Ports (Dover, Romney, Hythe, Hastings and Sandwich) produced only eighteen ships,

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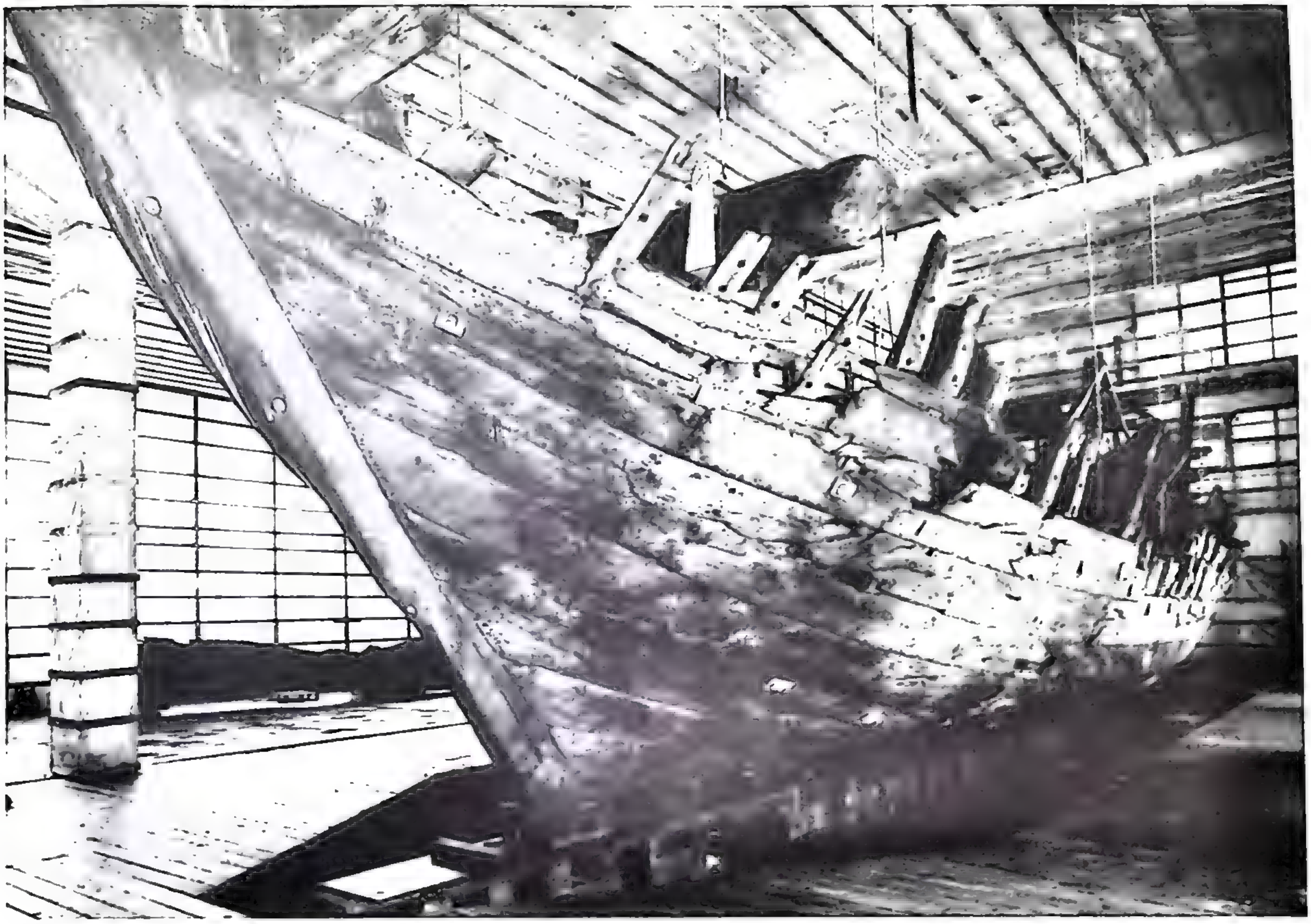
in the essays by C. Villain-Gandossi, *La Méditerranée aux xiiᵉ siècles: relations maritimes, diplomatiques de commerciales* (London, 1983).



The Bremen cog viewed from the port side of the bow. The clinker construction is clearly visible as are the ends of the framing timbers. Deutsches Schiffahrtsmuseum, Bremerhaven. (Courtesy of Deutsches Schiffahrtsmuseum, Bremerhaven, Denmark.)

twelve of which were from Sandwich. Other members, Rye with ten ships and Winchelsea with thirty-two, clearly rank with or above their associates. London listed thirty-five vessels.

In the survey of 1,291 entries, the number of English vessels whose home ports are noted has been reduced to 467 for comparative purposes. Of the 1,291 vessel entries, 316 are not identified by home port, 271 are foreign vessels. Also, home ports which listed only one or two vessels were removed from the survey (237 vessel entries), leaving the number of vessels at 467. This is an arbitrary selection but one which helps allow a relative comparison of the home ports of the ships.

The home port from the southwestern coast with the largest number of references was Dartmouth with seventy-one. Bristol provided 29 vessels, Southampton 22, Fowey 14, Exmouth 9, Plymouth supplied 8 and dozens of smaller ports added vessels. This survey of the larger southwestern ports provides a count of 153 vessels. This is 153 of the 467 English ships listed from home ports which contributed 3 or more vessels. It represents 33 percent of the total.

On the North Sea coast along East Anglia to the Humber, Great Yarmouth provided 50 ship references, the largest number from a single port (although some few of these may refer to Yarmouth on the Isle of Wight). King's Lynn accounted for 30 vessels, Kingston-upon-Hull 29, Ipswich 18, Little Yarmouth an-

other 4, and Harwich 11. This sample totals 142 ship listings. These 142 vessels coupled with the 153 from the southwest coast, total 295 of the 467 listed, or 63 percent of the total. A large portion of the remainder come from small ports which supplied only a few vessels each.

A number of conclusions may be drawn from this data, but of particular note is the large number of ships from the southwest and from along the coast between the Thames and the Humber. While they are adjacent to London and the Cinque Ports, they clearly overshadow both in the number of registrations of vessels. Recruitment of ships for war would obviously need to concentrate heavily in these regions. In fact, many of the corresponding entries for the king's sergeants-at-arms sent to impress ships for royal use are directed to these coastal regions, but no systematic study of their activities in this regard has been made. But since, as we have seen, only 31 vessels of nearly 1,300 surveyed are identified as king's ships, there was a constant need by the crown to find and arrest ships for naval service.[12]

The attention given to the identification and preparation of fleets is justified because of the need to understand how fleets were assembled for expeditions to France and elsewhere. The use of merchant vessels in the conduct of war came at a price to the commercial interests of the crown and the merchants, since the ships were removed from commercial use for long periods of time. The king's alternatives were to hire a mercenary fleet, as the French did, or to build and man a standing navy of considerable size. Neither option was acceptable. This returns us to the earlier discussion of the composition of English fleets in the war.[13]

English fleets consisted almost entirely of privately owned vessels impressed for royal service. The number of ships privately owned account for 98 percent of the 1,291 vessels in this survey for 1337 to 1360. Also confirmed is the dominant position of the cog as the principal ship of the age. It is evident from reading the documents from this period that the merchant marine did constitute the naval forces of England. However, it has not been demonstrated to what extent this was true, the source and ownership of the vessels or the terms and conditions of their service under the crown.[14]

The realities of conflict at sea during the early phase of the Hundred Years' War must be translated into our general historical interpretation of this conflict. Warfare at sea had a great impact on the outcome of battles on land. The major ships of war were the large cargo vessels—the cogs. They increasingly carried more men and material to pursue war on land. Horses were readily transported in large numbers with hundreds of men on board. The size of cogs ranged widely, but this survey produced many of over 100 tons.[15] They would continue to grow as demand for larger vessels continued. Increased size was advantageous for trade since larger cargoes could be carried without substantial increases in cost. These vessels grew taller which proved an advantage in warfare since the soldiers and mariners aboard could hurl spears, arrows, and other objects down on smaller vessels. Cannons were not yet a decisive factor in warfare at sea, although they had begun to appear aboard ships.

The two principal naval battles of this period were fought at Sluys (1340) and off Winchelsea in the fight known as Les Espagnols sur Mer a decade later. We have reasonably good descriptions of both these battles, especially that by Jean Froissart in his *Chro-*

12. Some of the royal expeditions required hundreds of vessels. The king's fleet at the Battle of Sluys was estimated at between 147 and 300 ships by five chroniclers: The *Chroniques de London depuis L'An 44 Henri III jusque à l'An 17 Edward III*, ed. J. Anngier, XXVIII (London: Camden Society, 1844), pp. 26-27 says 300 ships; *Chronicon Monasterii de Melsa*, ed. E. A. Bond, Rolls Series (3 vols.; London, 1866-1868), III, p. 44, says 200; Geoffrey le Baker, *Chronicon*, ed. E. M. Thompson, Rolls Series (London, 1889), 68 and Adam Murimuth, *Continuatio Chronicarum*, ed. E. M. Thompson, Rolls Series (London, 1899), p. 105, claims 260 ships; the low estimate of 147 is made in *Chronicon de Lanercost*, ed. J. Stevenson (Edinburgh, 1839), p. 333. Edward III's own estimate was 190 ships, noted in a dispatch to his son, the Black Prince. Archives of the City of London, Register F, fol. 39. Over 220 ships were involved in the 1342-1343 expedition to Brittany. *CPR (1343-45)*, p. 92. Estimates for the 1346 expedition to Normandy range up to 1,000 ships, cf. Thomas Washington, *Historia Anglicana*, ed. H. T. Riley, Rolls Series, 2 vols. (London, 1863-1864), I, pp. 267-68. For an estimate of 400, see *Chroniques de J. Froissart*, eds. S. Luce, G. Raynaud, L. and A. Mirot, *Société de l'histoire de France* (14 vols.; Paris, 1869-1966), III, p. 355.

The very high number of 738 ships was given for the transport of 32,000 men to the siege of Calais in 1347. British Library, Harleian MS 246, f.12 b; ibid., 3968, f. 130, and ibid., Cotton MS Titus F. III, F. 262.

13. For further information on the preparation of fleets, see T. J. Runyan, 'The Organization of Royal Fleets in Medieval England,' Proceedings of the *North American Society for Oceanic History*, ed. C. G. Reynolds (Annapolis, 1978), pp. 1-15.

14. On the conversion of merchant ships to royal service, T. J. Runyan, 'Merchantmen to Men-of-War in Medieval England,' in *New Aspects of Naval History*, ed. C. L. Symonds (Annapolis, 1981), pp. 33-40.

15. Our only extant example is the Bremen cog, a merchant ship found in the Weser River in 1962 and now undergoing chemical treatment in a tank in Bremerhaven. The ship dates from 1350-1400, is 77 feet (23.5m) long with a beam of 23 feet (7 m.), and rated at 130 tons.

niques.[16] Froissart provides a heroic account of English action at Sluys by Edward III and his men when they closed in on the harbor-bound Genoese-commanded fleet. Edward III's principal ships were cogs and all the vessels were described as sailing ships. The French relied primarily on galleys, we believe, although Froissart only refers to large ships and barges. The French may have used some cogs, but galleys were procured from the Mediterranean and housed in the royal arsenal at Rouen, the Clos des Galées.[17] If this battle is imagined as a struggle between cogs and galleys it dramatically heightens our appreciation of the conflict. More maneuverable, able to move in calms and capable of ramming and puncturing the hull of the high-sided cog below the waterline, the low-lying galley was a barb capable of inflicting a deadly blow to the cogs. The conditions of winds and seas played a major role in determining who held the advantage.

The cogs countered with height, size, greater numbers of marines and archers and towering castles. Battle strategy and tactics were very much a function of utilizing the virtues of each design to the best advantage. Ultimately, as Froissart states, the grappling hooks went out, the ships were held together as the men fought in hand-to-hand combat. Sea-fights were always fiercer than fights on land, he claimed, because retreat and flight were impossible.[18]

The sea battle of the Les Espagnols sur Mer in 1350 pitted the English against the Spanish who had ships which impressed Froissart with their size.[19] Sailing from Sluys with the wind at their stern, the Spaniards had specially made heavy iron bars and stones in their fighting tops to hurl down on the English ships. We are told there were forty such vessels. Edward III drew up his ships in close battle formation. As the Spaniards had the advantage of the wind, Edward directed his ship into a fast moving Spaniard and they crashed together. Froissart tells us that the castle of Edward's ship caught the castle of the Spaniard and broke the mast affixed on the castle. This should clearly indicate it was at least a two-masted vessel. As the battle continued the king's ship began to sink. To save themselves a French vessel was grappled and boarded; the men were killed or thrown overboard.

The Black Prince's ship was holed in several places we are told, but the means of accomplishing this are not explained. Could it have been galleys with rams? Artillery? The Prince also abandoned his sinking vessel and was transferred to a captured ship. Meanwhile, the *Salle du Roi*, which carried the king's wardrobe, was grappled and hauled away by a large Spanish sailing ship. It was halted when an English soldier leaped aboard and cut the halyard and mainstays which stopped the ship. She was soon overrun and taken. The battle ended just before dark with as many as two dozen Spanish ships taken or destroyed.[20]

It is difficult to recreate a credible naval battle from the accounts of Froissart or other chroniclers. Naval strategy and tactics often appear simplistic. The ships, the principal engines of war, are rarely described in sufficient detail to ascertain their exact nature or form of construction. As noted above for the battles at Sluys and Les Espagnols sur Mer, our knowledge of the types of vessels employed is essential for a proper understanding of these conflicts. This is of particular significance when dealing with this era when ship design (and sizes) are changing and when Mediterranean galleys are contesting full-rigged sailing ships built in the northern seas. The archaeological finds to date have given us the fine merchant ship, the Bremen cog (77 feet and rated at 130 tons), but no galley or warship has been excavated. The documentary records and contemporary illustrations remain the principal sources of information on ships of this era.[21]

A study of ships and fleets for the period 1337 to 1360 should make some effort to recognize the tensions at work between the mercantile community and the crown. We have found that 98 percent of the 1,291 ships surveyed were privately owned. We know further that

16. *Chroniques de J. Froissart*, ed. S. Luce, et al., II, pp. 34ff. for the Battle of Sluys and for Les Espagnols sur Mer, ibid., IV, pp. 89-98.

17. For the history of the development of this arsenal, A. Merlin-Chezelas, *Documents relatifs au clos de galées de Rouen*, 2 vols. (Paris, 1977-1978).

18. *Chroniques de J. Froissart*, II, p. 34. For a readily accessible translation, Froissart, *Chronicles*, ed. and trans. G. Brereton (Harmandsworth, England, 1968), p. 64.

19. His account is full and begins with a description of Edward III's angry demand that the Spaniards must be stopped from raiding the English. Next he is found demanding song and dance aboard his ship, the *Salle du Roi*, before the battle. *Chronique de J. Froissart*, ed. S. Luce, et al., IV, pp. 89-98.

20. Ibid. Froissart makes no mention of the use of artillery in this battle, either guns or catapults.

21. For recent comments on the development of the ship, Ian Friel, 'Documentary Sources and the Medieval Ship: Some Aspects of the Evidence,' *International Journal of Nautical Archaeology*, 12 (1983), pp. 41-62.

Battle at sea, early fourteenth century. This scene illustrates a psalter and clearly shows the use of ships as platforms for fighting in the conventional manner. Note the stern-post rudder is incorporated in the ship's lines as are the fore and aftercastles. Height provided an important advantage, although the top castle is not utilized in this scene. The archers played an important role in warfare at sea, using both long bows and crossbows. (Courtesy of the British Library, M.S. Royal 10 E. IV, fol. 19.)

the king seemed less able to depend on the Cinque Ports with their obligation of fifty-seven ships for fifteen days annually to compose a fleet.[22] Ships were heavily recruited from the Thames north to the Humber and in the southwestern ports. These ports possessed a large number of vessels. The crown was constantly arresting ships for royal service through sergeants-at-arms who were ordered to arrest vessels of various sizes with broadly worded writs from the king. The merchants and others who owned these vessels undertook great risks once their vessels were arrested: they might be destroyed or captured, they could lose the profits from trade they were engaged in or their vessels could return unfit for further service without first undergoing expensive repair.[23]

Resistance to writs of arrest are not well documented, but no doubt many fled the king's sergeants and their writs. Once recruited to do a task, the merchants did it and looked for a quick escape back to the world of trade and money-making. Perhaps the best expression of this independent-minded behavior was made in 1343. Edward III assembled a huge fleet of over 300 vessels to transport men and victuals to Brittany that year. Once unloaded, the captains pulled out and made for their home ports or to collect cargoes for the run across the Channel. The king was stranded with a large army, his back to the sea with no means to escape across the Channel, if necessary. He was furious

22. Actually the number of ships required of the Cinque Ports was reduced by the crown as the vessels grew larger. For their obligations, K. M. E. Murray, *The Constitutional History of the Cinque Ports* (London, 1935) and F. W. Brooks, *The English Naval Forces, 1199-1272* (Manchester, 1932, reprinted 1962), chap. VI.

23. There is little evidence of compensation by the crown to owners of merchant vessels damaged while in royal service. For some examples, P.R.O. E. 101/24/9(6) mm. 1-45. J. W. Sherborne, 'The English Navy: Shipping and Manpower, 1369-1389,' *Past and Present* (July 1967), pp. 163-75 addresses this question. See also J. S. Kepler, 'The Effects of the Battle of Sluys upon English Naval Impressment, 1340-1342,' *Speculum* XLVIII (January 1973), pp. 70-77.

and ordered all the 'deserters' arrested. It soon became clear that he could not and should not arrest a good portion of his captains and their vessels, so he dropped the threats.[24] Tension continued between the crown and shipowners and should make clear the further complexities of warfare at sea in an age before the organization of standing fleets.

24. *CPR (1343-45)*, p. 92.

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The Canaries as Ports of Call

WALTER E. MINCHINTON

WHILE historians have been concerned with the history of trading companies and shipping lines, and economists have analyzed the flows of commodities and the finance of foreign commerce, geographers have paid most attention to the shifts in the pattern of ports and changes in their function and equipment. They have discussed the characteristics of ports such as general cargo ports and specialized ports such as oil terminals, liner ports and ferry ports. They have also paid attention to differences between terminal ports, intermediate ports, and ports of call.

But what is a port of call? In popular English parlance it is each of the public houses visited by a seaman when he comes ashore to enjoy an evening out. But it is also a term which has received more detailed academic examination. As a result of an international congress organized in Brussels by the Société Jean Bodin in 1968, three volumes were subsequently published entitled *Les grandes escales,*[1] the French equivalent of the English term 'ports of call.' After accounts of ports of call in many parts of the world—the Mediterranean, the Baltic, the Atlantic and the Pacific—from ancient times to the twentieth century, an attempt was made to produce a general synthesis to answer the question 'what is a port of call?' Setting the scene for the contemporary discussion, two previous definitions were cited. In the middle of the eighteenth century a French writer, Savary, defined ports of call as 'les ports où abordent les navires pendant leurs voyages, soit pour rafraîchissement ou autres choses nécessaires, soit pour y débarquer partie de leur fret ou pour recevoir des marchandises dans leur bord.'[2] A century or so later an English author, Robert Stevens, stated that 'Ports of Call are ports at which a charterer requires that a vessel shall call for the purpose of receiving orders for the discharge of cargo at the port for which she is finally destined.'[3] One hundred years on, the Brussels conference produced a much wider definition. In my own contribution on 'British ports of call in the nineteenth century,' I listed seven types of port of call as follows:[4] a) ports of call for orders or market intelligence; b) for victualling or water; c) for stores (consumable or other) and for repairs; d) for or with mail; e) coaling stations, bunkering ports; f) passenger cruise ports of call; g) to take on or put off crew; and h) political ports of call. I noted, further, that wartime provided a more specialized instance of a calling port.[5] And I also added that intermediate cargo ports were regarded by some as ports of call, but I excluded from consideration harbors of refuge, the resort to ports of call under stress of weather, and did not discuss outports where vessels take on or put off pilots[6] or ports of call for naval vessels.

In the Brussels volume, three further types of ports of call were identified: a) fiscal ports. Of these, the best example is provided by Elsinore in Denmark which between 1429 and 1857 was the place where the Sound dues were collected from vessels entering or leaving the Baltic;[7] b) ports for the formation of convoys. Three examples will suffice—Spanish convoys formed at Cuba before crossing the Atlantic[8] and French convoys gath-

1. *Les grandes escales: Recueils de la Société Jean Bodin pour l'Histoire Comparative des Institutions* (Bruxelles: Editions de la Librarie Encyclopédique, 1972-1974), XXXII-XXXIV.

2. J. Savary des Bruslons, *Dictionnaire universel de commerce* (Copenhagen, 1759-1765), II, col. 361.

3. Robert White Stevens, *On the stowage of ships and their cargoes, with information regarding freights, charter-parties &c,* 7th ed. (London, 1878), p. 501.

4. 'British ports of call in the nineteenth century,' *Les grandes escales, XXXIV Période contemporaine et synthèses générales,* pp. 22-23.

5. 'British ports of call,' *Les grandes escales,* XXXIV, p. 23, note 4.

6. 'British ports of call,' *Les grandes escales,* XXXIV, p. 23.

7. See Charles Hill, *The Danish Sound Tolls and the command of the Baltic* (Durham, N.C.: Duke University Press, 1926).

8. Jan A. van Houtte, 'Les problèmes humains et sociaux de l'escale: rapport de synthèse,' *Les grandes escales,* XXXIV, p. 648.

ered at Martinique before returning to France;[9] other places, such as the Azores, were designated where ships which had been delayed could rejoin their convoy;[10] c) wintering ports (Winterlage): these were places where vessels spent the winter; from the sixteenth to the eighteenth century Mozambique served as an 'escale d'hivernage' on the Portuguese route to the East Indies for vessels which had missed the monsoon.[11]

But this is to categorize rather than to explain. According to some, a port of call is a port at which a vessel 'calls' rather than 'enters' and the 'call' is in a non-freight-earning capacity. Such a 'calling' vessel does not pay light dues nor is she liable to harbor or port charges. The ship does not usually figure therefore in the shipping returns of tonnage entering or clearing the port since these commonly relate only to vessels which enter or clear in a freight-earning capacity. In consequence, to distinguish a port of call further as far as the vessel is concerned, a bill of lading does not usually exist for this particular port. Ports of call are ports visited for other than direct trading purposes. But this is a definition which is open to challenge on several counts. First, if an intermediate cargo port or a passenger cruise port can be accepted as instances of ports of call, then it is not accurate to say that the call is in a non-freight-earning capacity. Then, even if a vessel 'calls' in a non-freight-earning capacity, it is liable to pay light dues. It also has to pay port or harbor dues, the charges depending on which part of the harbor and what services are used. Only naval vessels of the home flag are exempt.[12]

In his discussion of a typology of ports of call, John Gilissen suggested that a threefold scheme could be derived from the functions which the ports of call performed.[13] There were: 1) *escales techniques:* harbors of refuge, for victualling and water, coaling stations, calls for crew, wintering ports, ports for repair or stores and convoy ports; 2) *escales économiques:* transit ports, ports for the partial unloading or loading of cargo, for orders, passenger liner calls and mail calls; 3) *escales politiques:* military ports, fiscal ports and imperial ports.

As will be obvious from the foregoing, ports of call for some routes may be terminal ports for others. Further, individual ports of call may not serve all the range of functions set out and in some cases may only have one function. Much will depend on location, on technology and on the time involved. The pattern and employment of ports of call have changed over time. When Europe began to develop trading relations with the wider world in the age of sail, islands in the oceans in many parts of the world suddenly became of importance. When steam replaced sail the pattern changed, and it was further altered first by the construction of the Suez Canal and then of the Panama Canal which affected the routes of some vessels. The convoy port had its apogee in the seventeenth and eighteenth centuries, the coaling station its peak of importance in the nineteenth century.

And so we must turn to the Canaries which, like the other islands in the Atlantic—the Azores, the Cape Verde Islands, Ascension, St. Helena and Tristan da Cunha—have served as ports of call in various ways and at various times from 1600 to the present day. Situated in the eastern Atlantic, the Canaries are about 1,500 sea miles from the English Channel, about 4,500 miles from South America and South Africa and about 70 miles off the African coast. They lie on the great circle routes between Europe and South America and between Europe and South Africa. They consist of seven islands[14] of which Tenerife and Gran Canaria have been the more important in maritime matters.

As is typical of the other Atlantic islands—Madeira, the Cape Verdes, Ascension, St. Helena and Tristan da Cunha—the Canaries are lacking in harbors. On Gran Canaria the headland of La Isleta provided a degree of shelter for La Luz, the port of Las Palmas, and an artificial harbor has been formed by the construction of three moles: the inner or old breakwater, 1,250 yards long; the outer or new breakwater to the seaward, 2,835 yards long; and the Muelle de S Catalina which runs at right angles to the other two and forms an inner harbor.[15] A smaller sheltered area has been formed by the Muelle Commercial. The general depth of the outer

9. L. Denoix, 'Les escales de la Compagnie des Indes au XVIIIe siècle,' *Les grandes escales, XXXIII Les temps modernes*, p. 219.

10. Virginia Rau, 'Les escales de la "Carreira da Índia" (XVIe-XVIIIe siècles),' *Les grandes escales*, XXXIII, pp. 16, 25.

11. Rau, 'Escales de la "Carreira da Índia,"' *Les grandes escales*, XXXIII, p. 19.

12. Letter from P. E. Stonham, 3 August 1971.

13. 'Une typologie des escales: histoire des grandes escales vue sous l'angle institutionnel,' *Les grandes escales*, XXXIV, pp. 699-715.

14. In addition to which there are numerous small islets.

15. The original breakwater at Las Palmas was built by Swanson & Miller. Peter N. Davies, *The trade makers: Elder Dempster in West Africa, 1852-1972* (Allen & Unwin, 1973), p. 183, note 1.

harbor is thirty-six to forty-two feet and the inner harbor three to forty-two feet. Berthing conditions are good. There are no docks, but ship repairing is a relatively important industry. Elsewhere on Gran Canaria there are only beaches, some of which have been protected by small moles. A number are difficult to use because of swell and wind.

On Tenerife there are two ports, the modern port of Santa Cruz and the relatively insignificant Puerto de la Cruz. A harbor has been formed at Santa Cruz by the construction of two moles, the Muelle del Norte, 150 yards long, and the Muelle del Sur which was extended in 1938 from a length of 250 yards to about 1,200 yards. About two-thirds of the enclosed area has a depth exceeding twenty-six feet. The harbor is partly open to winds from the northeast and a swell generally sets in because of the prevalence of easterly winds. There are no docks here. On the eastern side of Puerto de la Cruz there is a small harbor with two short moles, but vessels usually anchor about three-quarters of a mile offshore in fifty fathoms of water where they are sheltered from southeasterly winds but exposed to northerlies.

On Gomera, S Sebastián is the single port and the only frequented anchorage. It consists of a small sandy bay at the mouth of the barranco about one mile southwest of Punta de S Cristóbal. The outer anchorage near the entrance to the bay has ten to fifteen fathoms of water but is exposed to southeasterly winds and cannot offer much security in November and December. There is, however, an inner anchorage within a small well-protected creek (Puerto de la Hila) in the northern part of the bay. The method of discharging goods and passengers is by boat to the landing stage at Puerto de la Hila or by boat to the beach in front of the town.

From a commercial point of view La Palma is the third most important island of the Canaries. The bulk of its trade passes through the capital, Santa Cruz, and most of the remainder through Puerto de Tazacorte. In addition, Santa Andrés on the northeast coast has a small landing place with a quay that is used by fruit vessels in good weather. The anchorage at Santa Cruz, considered one of the best in the Canaries, is in ten fathoms about 300 yards from the beach; it affords shelter except during winds from an easterly quarter. The harbor itself is protected by a mole which projects southwards from the southern end of the town. This mole is about 1,400 feet long and 65 feet wide and has a depth of 20 feet or more alongside part of its length. It is accessible for ships drawing up to twenty-six feet but the depths on its inner side range from twelve to twenty-one feet. The harbor provides good shelter except from southeasterly winds. Since there is no harbor at Puerto de Tazacorte, the inter-island vessels lie off shore and receive fruit from boats or, during the long spells of rough weather, by means of a mechanically-worked aerial cable stretching from the cliff. The usual anchorage, in seventeen fathoms at about half a mile off the beach, is exposed to west winds.

The coasts of Hierro are steep and uninviting and the island is probably the most inaccessible of the Canaries. The main anchorage off the island is on the northeast coast at Puerto del Hierro which lies south of Punta Caleta. Here a short mole has been built which can be used by small craft. The anchorage lies in five fathoms near the shore of the bay with seventeen fathoms close outside it. A second anchorage lies near the southern headland of Punta Restinga in Puerto de Naos with depths of nine to eleven fathoms; this is rarely used except by coastal vessels engaged in local trade. A third exposed anchorage, seldom used, stands off the west coast at Puerto de los Reyes.

All the so-called ports of Fuerteventura are mere anchorages except Puerto de Cabras, the capital and chief port. Here there is a stone pier which projects about 100 yards into the sea from the eastern end of the town, thereby giving additional shelter to a creek 40 yards wide by 50 yards long into which small vessels can enter. Inter-island ships berth alongside the pier or anchor in the roadstead just off the port. On the west coast Puerto de Tostón and Puerto de la Peña are rarely visited except by small local boats or by a few sailing-vessels in summer. On the southeast coast the Puerto de Gran Tarajal is visited by inter-island vessels and by fruit boats on the way to Puerto de Cabras. The small bay here is well sheltered except with winds from the east through south to southwest. A small pier has been built but all cargo is transshipped by surf boats and passengers are carried by waders through the surf.

The only frequented ports of Lanzarote are about midway along the east coast at Arrecife where an extensive series of longshore reefs forms the two ports of Naos and Arrecife. Puerto de Naos lies in the shelter of Islote Cruces, and the submerged reef adjoining it; on the south it is bounded by the Islote Francés. The harbor is small but secure and has depths of between

nine and nineteen feet over sand and mud. The northern entrance between Arrecife de la Raya and the coast has a depth of seven to eleven feet and is generally used during winds from between north and east. The southern entrance between the Islote Cruces reef and Arrecife del Peregil has similar depths and is generally used when winds are from the south or west. There is a short quay and large ships may obtain anchorage off the port in eighteen to twenty-two fathoms of water. Immediately southwest of Puerto de Naos and connected to it by a very shallow passage are the two basins of Santa Ginés and Estila which act as harbors for small boats and have access by a narrow boat-passage to the Puerto de Arrecife. Here the harbor is mainly formed by the Islote de Santa Gabriel and Arrecife Quebrado. This natural protection has been greatly increased by the construction of a breakwater from the southern end of Santa Gabriel island. The pier is 670 feet long and of this length 250 feet has a depth of 15 feet alongside at low water and will take vessels of up to 800 tons. There are also three moles accessible only to lighters, one at any state of the tide and the other two at high water. Large ships may obtain anchorage in seventeen to thirty fathoms in the roadstead south of Arrecife Quebrado but this anchorage is exposed to southerly winds.[16]

The ensuing discussion will consider the Canaries as ports of call under the following heads: 1) Escales techniques; a) for victualling and water; b) for stores and repairs; c) harbors of refuge; d) coaling and oil-fuelling stations; e) convoy ports and privateering base; 2) Escales économiques; f) for orders and market intelligence; g) intermediate cargo ports; h) for or with mail; i) passenger cruise ports of call; and 3) Escales politiques; j) imperial ports of call.

1) Escales techniques

a) for victualling and water

To the subject of the provision of facilities for victualling and water, little attention has been paid in studies of the shipping industry, in histories of individual shipping lines or in accounts of the development of ports. Yet food and water were essential for the operation of ships and the carriage of passengers, and some steps had to be taken to make sure they were available at ports. For victualling and water the islands in the Atlantic, Pacific and Indian Oceans came into prominence. Convenience was important, but price was also a factor. In the Atlantic, Madeira, the Canaries, the Cape Verde Islands, St. Helena, Ascension Island and the Falkland Islands were places where ships might obtain food and water either as a planned and regular call or in an emergency when food supplies ran out or water was exhausted.

Because they could provide abundant water and supplies, the Canaries were indispensable ports of call on the route to the New World. Columbus called at Gomera before setting out on his first voyage to the Indies, taking on provisions at San Sebastián before he left on 7 September 1492. On his second voyage he collected domestic animals at Gomera and, like other explorers after him, called at the Canaries on his other two outward voyages. The Canaries were important on the outward voyages to the West Indies but, because of the pattern of winds and currents, played little part in the return traffic. It was the Azores which served as the 'Canaries de Retours.'

Pierre Chaunu argues that at first Gomera was the island at which more vessels called than any other because it was furthest west but later it gave place to Lanzarote, the nearest island to Europe. For the period 1550-1560 Chaunu has calculated that 33 percent of vessels called at Lanzarote and 31 percent at Gomera. The other islands were much less important; 12 percent called at Gran Canaria and only 5 percent at Tenerife while 19 percent of the returns did not specify at which island in the Canaries the vessel called.[17]

In the eighteenth century the French Compagnie des Indes, for example, arranged for its vessels to call at Tenerife regularly to replenish their supplies of water, to take on fresh food and to stock up with wine (and also wood).[18] The ships of other nations, including Dutch East Indiamen,[19] also called for such supplies. And if any of the crew had fallen victim to scurvy they

16. This account of the ports and landing places in the Canaries is taken from *Spain and Portugal IV The Atlantic Islands* (Naval Intelligence Division, 1945), pp. 134-38, 162-63, 174-75, 184-85, 191, 201, 212-13.

17. Pierre Chaunu, *Séville et l'Atlantique VIII(1) Les structures* (Paris: SEVPEN, 1959), pp. 359-60.

18. *Les grandes escales*, XXXII, p. 218.

19. Jaap R. Bruijn, F. S. Gaastra and I. Schöffer, *Dutch-Asiatic shipping in the 17th and 18th centuries. II Outward voyages from the Netherlands to Asia and the Cape, 1595-1794* (The Hague: Martinus Nijhoff, 1979).

would be put ashore at the port of call to be restored to health.

By the later nineteenth century, however, the large ocean-going sailing ships had little need for victualling or fresh-water ports except in an emergency. The deep-sea sailing vessel sailed self-contained, relying on canned foods and replenishing its fresh water supplies from rain, especially during doldrum showers when the salt was out of the sails. But since the regular and passenger lines required food and water for passengers and crew, the victualling call remained of importance in the steamship era though the need for victualling calls was reduced in this case also by the increased availability of canned foods. Information about how and when these needs were satisfied is scanty. Food supplies for vessels were usually obtained from ship chandlers but so far this question has been little discussed in print.[20] Then, too, how was water supplied? Was any capital investment involved? Who was responsible? Which investors played a part? Were shipping companies involved? As a partial answer to these questions, it is known that Elder Dempster owned water tanks at Calle San Martin and at La Masita in Santa Cruz on Tenerife.[21]

B) FOR STORES AND REPAIRS

In the age of sail, ports of call were of significance for supplies of stores and for repair. Consumable stores such as canvas and cordage, pitch, rosin, tar, billet wood, turpentine, candles and vinegar would require regular replacement and ships might require other stores in cases of emergency. In a storm a sailing vessel might be dismasted, lose spars or rigging or suffer damage to her sails and these might have to be replaced. Since it would be cheaper to sail a considerable distance under jury rig to a destination rather than put into a port partially to re-rig, many repairs would be made at sea. But sometimes more needed to be done, and the vessel would then put into port. Certainly vessels en route for the West Indies or South America would put into the Canaries for repairs, and it has also been stated that the treasure fleets used normally to refit in the Canaries before proceeding to Cadiz and Seville.[22]

While acquiring stores and carrying out repairs were of importance when sailing vessels ruled the seas, they continued to be of significance in the age of steam. In the event of damage to a steamship or the breakdown of its machinery which could not easily be repaired at sea, the possibility to seek shelter to carry out repairs in the Canaries would be taken readily if the ship was in the vicinity. Alfred Jones established a large marine engineering workshop and a ship repair yard at Puerto de la Luz on Gran Canaria.[23]

C) HARBORS OF REFUGE

Chaunu describes the Canaries as serving as shelter in two respects. Though not well-endowed with the northern coasts of the islands battered by the winds, the Canaries sometimes provided protection from bad weather. In January 1582, for example, some ships sought refuge from the storms at Gomera and, Chaunu continues, this was not a rare occurrence.[24] On Lanzarote, Puerto de Naos was important as a refuge for small shipping in stormy weather.

The Canaries also served as a refuge from privateers[25] although they were not always successful in this role.[26]

D) COALING AND OIL-FUELLING STATIONS

But the development of the steamship transformed the pattern of ports of call. The early steamships had relatively inefficient and coal-hungry engines and therefore needed to replenish their stocks on long ocean voyages. Moreover, if coal was carried, freight could not be carried. As W. S. Lindsay wrote in 1874:

> Whatever may be gained by not requiring to stop at any intermediate port I consider it a mistake in a commercial point of view to suppose any advantage is to be derived from taking on board on a steam-ship, especially when engaged on foreign voyages, sufficient coal to carry her out and home. The space the coals occupy in a steamer ought to be of more

20. It has been suggested that by the second half of the nineteenth century there was a big organized structure of agents or managing agents in all ports of call who looked after the interests of the calling vessels. See also James S. Learmont, *Master in sail* (Percival Marshall rev. ed. 1954), pp. 152, 187.

21. Davies, *The trade makers*, p. 453.

22. *Spain and Portugal*, p. 58.

23. Davies, *The trade makers*, p. 126.

24. Chaunu, *Séville et L'Atlantique*, VIII, p. 357. For other examples see the notes to tables in *Séville et l'Atlantique*, II, IV.

25. Chaunu, *Séville et l'Atlantique*, VIII, p. 357.

26. See below section 'E.'

value, for the reception of cargo than the cost of sending coals in sailing vessels to the ports abroad where required, and than any loss sustained by the expense and detention of shipping them there.[27]

If therefore a vessel could coal at fairly frequent intervals she was likely to operate more profitably. But coal was not everywhere available; it therefore had to be supplied to the bunkering stations which were set up from the colliery areas. Amongst the ports chosen as coaling stations were Las Palmas and Tenerife. Before 1869 many vessels called at these ports on voyages to and from South America, Africa, Asia or Australia. After the construction of the Suez Canal vessels for Asia and Australia no longer went round the Cape, but steamships trading to and from South Africa or South America continued to coal at one of the Atlantic islands.

Amongst the people attracted to the Canary Islands was Alfred Jones, the founder of Elder Dempster, in search of a place to establish a coaling depot for his ships which traded with West Africa. To make this possible, Jones bought collieries at Garth and Maesteg in South Wales and set up two subsidiaries, the Grand Canary Coaling Company and the Tenerife Coaling Company, in 1884 which ran the bunkering facilities in the Canaries.[28] The effect on the Canaries was marked. 'Before Sir Alfred established the Grand Canary Coaling station at Puerto de la Luz in 1884,' it was asserted,

the port of Las Palmas was only an open roadstead and about twenty ships per month called there, but four years later the monthly average had increased to a hundred and Grand Canary became one of the most important centres for the coaling of steamers trading to and from South America, Australia, New Zealand and South and West Africa.[29]

Cory Brothers, the major South Wales coal exporting firm, had bunkers in both Las Palmas and Tenerife[30] while coal from the north of England was available at Tenerife.[31] A small amount of German coal was also available in the Canaries, some of it brought by Norwegian vessels which also carried timber for the crates used to pack bananas and tomatoes for export.

The choice of bunkering port depended on price—and the cheapness of coal at the Canaries led to a growth in its coal trade. An incident involving an individual vessel helps make the point. Lord Lugard, who on one occasion travelled with Alfred Jones to West Africa via the Canaries on the SS *Benin* in 1898 and did not enjoy his journey, was especially annoyed when the vessel left the Canaries for she had been stacked with coal to such an extent that it was level with the bulwarks:

This, of course, is in utter violation of the Board of Trade rules, which prescribe, I believe, a clear gangway from stem to stern. Thus our lives are risked, and not merely to carry a little extra cargo and make money, but because this coal is cheaper than that at Sierra Leone &c. It is wanted for her *return voyage!* and so we are subject to this filth and inconvenience of constant flying coal dust and our lives risked for Jones' pocket.[32]

Elder Dempster vessels also coaled at the Canaries on their homeward voyages from West Africa.[33]

The Canaries became one of the major coaling stations provided with British coal. About 1,900 bunkers for the British Admiralty, for other navies and for over 200 different shipping lines meant the sale of over a quarter of a million tons annually from Las Palmas.[34] 'The coal imported into the Canaries,' one commentator wrote, 'is not needed for local industries; there are none; it is destined to supply the bunkers of steamships calling.'[35] By 1913 so great was the increase in demand that over 1 million tons of British coal (out of a total of 21 million tons) was exported to Las Palmas compared with a similar amount to Montevideo and 1.5 million tons to Port Said.[36] In this, price played a part. When Owen Philipps (later Lord Kylsant) acquired Elder Dempster, he thought the Grand Canary Coaling Company

should have a bigger proportion of the 'Coal Pool.' The other six members disagreed and in October 1910 a price-war broke out. This continued for several years and at one time the Las

27. *History of merchant shipping and ancient commerce* (London, 1874; reprinted New York: AMS Press, 1965), IV, p. 494, note 1.

28. Peter N. Davies, *Sir Alfred Jones: shipping entrepreneur par excellence* (Europa Publications, 1978), pp. 66, 105.

29. Davies, *The trade makers*, p. 126.

30. Founded in 1842 in Cardiff, Cory Brothers had eighty coaling stations by 1913. For a list, see *Les grandes escales*, XXXIV, p. 50.

31. Adam W. Kirkaldy, *British shipping: its history, organisation and importance* (Kegan Paul, 1914), pp. 602-10.

32. Davies, *Sir Alfred Jones*, p. 113.

33. Davies, *Sir Alfred Jones*, p. 67.

34. Davies, *Sir Alfred Jones*, p. 61.

35. A. J. Sargent, *Seaways of the empire: notes on the geography of transport* (Black, 1918), p. 6.

36. Committee on Industry and Trade (Balfour), *Survey of overseas markets* (HMSO, 1925) Statistical Tables, part II.

Palmas price dropped to equal the Cardiff price. During this time Philipps's opponents imported Newcastle coal in hired Danish ships—tomatoes being backloaded for the return voyage. Eventually, however, the situation was regularised [by] the setting up of the Atlantic Isles Depot Agreement.[37]

In 1912 nearly 7,000 steamships with a total tonnage of sixteen million tons called at the Canaries to bunker cheaply. More than half were British ships but there were also ships belonging to Germany, Spain, Norway, France, Italy and Austria-Hungary.[38]

Bunkering was facilitated at both Las Palmas and Tenerife by the use of steam tugs and lighters, some of which were owned by the two Elder Dempster concerns, the Grand Canary Coaling Company and the Tenerife Coaling Company.[39]

The bunker market was also affected by the demand for shipping. The main influence controlling the coal trade of the Canaries was to be found in the demands of the South American market. When the maize crop failed in the Argentine in 1911 ships were diverted to other markets and so the number of calls in the Canaries for coal dropped.[40]

The replacement of coal-fired ships by oil-fuelled vessels brought about a further shift in the pattern of bunkering, but the Canaries were able to hold their position as major bunkering ports of call. An oil refinery was established on Tenerife in 1929 with the result that its cargo receipts were dominated by imports of crude oil for this installation while its list of shipments were headed by petroleum products. Las Palmas also became an important oil bunker port. It was able to offer oil cheaply, as it had done coal, because a number of oil companies established oil terminals there, and the competition between oil suppliers kept prices down. In the 1930s it was stated that the facilities for oil-fuelling were excellent, 'pipelines being laid on to numerous points on the inner and outer breakwaters.'[41] In 1956 Las Palmas sold 1.9 million tons of oil for bunkers and Tenerife 0.7 million tons.[42]

E) CONVOY PORTS AND PRIVATEERING BASE

The Canaries served as a meeting place for Spanish convoys and for the Portuguese also before the vessels set out on their westward voyages across the Atlantic.

Because of their position astride the sea routes down the African coast and across the Atlantic, the Canaries also served as a nest for privateers. Around 1540 they served as a base for French corsairs. The Englishman, John Hawkins, also launched his raids on Spanish shipping from the fortunate archipelago.[43] The Dutch East India vessel *Hof van Breda* which sailed from Texel on 22 May 1675 was taken in the Canary Islands by four Turkish privateers after a heavy fight with more than 100 casualties.[44] And many other examples could be cited.

2) Escales économiques

F) FOR ORDERS AND MARKET INTELLIGENCE

Before the age of radio, messages could usually only be sent to a ship if she could put into port. Calling for orders or market intelligence was therefore a method by which owners or masters could obtain later information and masters could receive new instructions. In the seventeenth, eighteenth and much of the nineteenth century, it was common for European merchants to have agents with whom they could correspond. *The Bolton letters,* which provide a record of an English merchant living in Madeira who acted for London merchants between 1690 and 1714, vividly illuminate how an agent in another Atlantic island operated[45] and no doubt other agents carried out similar functions in the Canaries.

The position improved in the later nineteenth century when the Atlantic islands were linked with Europe and Africa by submarine cables, and it then became possible to telegraph messages to the Azores, Madeira or the Canaries. The English Eastern Telegraph Company laid a cable from Lisbon to Madeira in 1873—a link between Porthcurno (Cornwall) and Lisbon having been completed earlier—and in the following year cables were laid from Madeira to St. Vincent in the Cape Verdes and then on to Recife in Brazil. The whole chain from England to Brazil was open for traffic in June 1874.[46] Two Spanish-owned cables were laid con-

37. Davies, *The trade makers*, pp. 182-83.
38. Sargent, *Seaways*, pp. 3-4.
39. Davies, *The trade makers*, p. 455.
40. Sargent, *Seaways*, p. 8.
41. *Spain and Portugal*, p. 138.
42. Gunnar Alexandersson and Göran Nörstrom, *World shipping an economic geography of ports and seaborne trade* (Wiley, 1963), p. 247.
43. Chaunu, *Séville et l'Atlantique*, VIII, p. 357.
44. Bruijn et al, *Dutch-Asiatic shipping*, II, p. 188-89.
45. André Simon, *The Bolton letters: the letters of an English merchant in Madeira 1695-1714, vol. I 1695-1700* (Wernie Laurie, 1928).
46. K. C. Baglehole, *A century of service* (Cable & Wireless, 1969), pp. 43-44.

necting the Canaries with Cadiz, one running direct from Las Palmas and the other direct from Santa Cruz de Tenerife, the first becoming operational in December 1883. An Italian cable was laid from Malaga to Confital Bay (Las Palmas, Gran Canaria) and another from Teija (Tenerife) to Sao Vicente (Cape Verde Islands), and a French cable from Teija to St. Louis (Senegal). As the accompanying map shows, the main islands of the Canaries were also linked by cable. Two cables ran from Regla Bay (Tenerife) to Confital Bay and another two from Garachico (Tenerife) to Bajamar (near Santa Cruz, La Palma). Single cables ran from Teija to San Sebastián (Gomera), from San Sebastián to Puerto del Hierro (Hierro), from Las Palmas to Puerto de Cabras (Fuerteventura) and from Puerto de Cabras to Arrecife (Lanzarote).[47] All of these were Spanish-owned. These cables increased the importance of the Canaries as calling ports for orders.

In 1878 Stevens wrote that:

> The custom has much increased of late years to direct great numbers of vessels, especially those which are grain-laden, to a port of call in the first place, in order that facilities may be given for the sale and resale of cargoes at any market in the United Kingdom or the Continent which may offer the greatest advantages up to the latest period. This custom is fast extending, but is now chiefly practiced in the grain, seed, and sugar trades. Those engaged in any particular trade generally agree on a form of charter-party which may be best suited to the peculiar circumstances of the case.

Stevens further noted that there were also 'ports of call on an outward voyage to which the masters of vessels are directed by charter-party to proceed for the purpose of receiving orders as to the loading port.'[48]

Not only sailing vessels but steamships also made such calls. Until the First World War it was common practice for a considerable proportion of the wheat and maize dispatched from the Argentine to be consigned not to a fixed destination but 'for orders.' The same was true for grain ships from Australia and California coming to Europe via Cape Horn. In both cases, ships would be cleared for Las Palmas or Tenerife, their ultimate discharge port being left uncertain. Telegraphed instructions also provided the basis of operation for tramp shipping which could receive orders directing them to the most appropriate port for the cargo they were carrying or give instructions about future cargoes.

The importance of this category of ports of call has inevitably declined with the improvement in communications and the general adoption of radio which have rendered it unnecessary for a master to put into port to receive instructions or to obtain the latest news about the state of the market.

G) INTERMEDIATE CARGO PORTS

The Canaries owed their importance more to their position as ports of call than to their own production. Apart from coal and then oil which were brought in to stock the bunkers, the Canaries required foodstuffs to feed both their own population and the great numbers of visitors who came by sea and also—though this lies outside the immediate scope of this paper—by air. Maize, wheat and flour were obtained chiefly from the Argentine, sugar, potatoes and preserves mainly from Great Britain and fish, poultry, coffee, olive oil, canned goods and other foodstuffs from other sources as well. The manufactured goods needed by the population were almost entirely brought from outside. In the 1930s the chief imports were hardware and machinery of various types, cotton goods and other textiles, rubber goods, paper, matches and pottery. The iron and steel products were shared mainly by Belgium, Germany and Great Britain, but the latter was the most important source of textiles. The Canaries also required imports to foster their agricultural production: artificial fertilizers and chemicals came from Great Britain and Belgium, sulphur from France and Italy and fruit-packing materials mainly from Sweden and Portugal. Most of this trade was carried on by vessels making intermediate calls.[49]

The export trade falls into three phases: first wine, then cochineal, then bananas and tomatoes. In early Spanish colonial days Canary wines were exported to the West Indies and Mexico and even over the Isthmus of Panama to Peru. Canary wine was also carried in the later seventeenth and during the eighteenth centuries to the English colonies in North America and the West Indies, but the market for Canary wine in England was restricted by the limited market which the Canaries provided for English exports.[50] The trade in Canary wine fell off during the early decades of the nineteenth century and especially after 1850. Some of this wine trade had been carried on vessels which sailed

47. *Spain and Portugal*, pp. 106-7.

48. Stevens, 'Ports of Call,' *On stowage*.

49. *Spain and Portugal*, pp. 98-99.

50. A. D. Francis, *The wine trade* (Adam & Charles Black, 1972), pp. 133, 162.

directly to the Canaries, but most of it was carried on vessels which were making intermediate calls.

The second phase was briefer. The Canaries found a market for cochineal which was used as a dye particularly in the textile trades. Beginning with eight pounds in 1831, the shipments of cochineal rose rapidly, especially after the collapse of the wine trade about 1850. In 1869 exports exceeded six million pounds (worth £700,000).[51] Four years earlier John Dempster had written to prospective clients:

> Knowing that you are large importers of cochineal I take the liberty of writing to ask your opinion with respect to our steamers calling at Grand Canary or Teneriffe during the cochineal season. My idea of rate would be ½d. per lb., and if we thought there was any likelihood of our getting cochineal in any quantity at that rate, we might arrange for to call at one or both ports on the homeward voyage.[52]

With the development of aniline dyes in the 1880s, the trade in cochineal dropped sharply. Exports of cochineal to the United Kingdom fell from £64,579 in 1885-1889 to £13,388 in 1910-1914.[53] A small quantity of cochineal continued to be produced for the manufacture of rouge and lipstick and for use in silk-dyeing.[54]

The third and continuing phase concerns the export of agricultural products, particularly bananas and tomatoes. Like the cochineal trade, the banana and tomato exports were carried on ships which called at the Canaries as well as those whose voyages terminated there. A list of the main shipping lines which were calling regularly at the islands during the early part of 1939 runs as follows:[55]

British lines:	Shaw Savill (Liverpool to S. Africa and Australia)
	Elder-Dempster (Liverpool, and London to gulf of Guinea)
	Blue Star (London to S. America)
	Natal (London to S. and E. Africa)
	Royal Mail (London to S. America)
	Union-Castle (London to S. and E. Africa)
	Yeoward (Liverpool to Canaries)
German lines:	German Africa (Hamburg to gulf of Guinea, and to S. and E. Africa)
Italian lines:	Italian (Naples to Vancouver; Genoa to east and west coasts of S. America)
	Lloyd Triestino (Trieste to S. Africa)
French lines:	Navigation Paquet (Marseilles to Canaries)
	Faire et Fraissenet (Marseilles to gulf of Guinea)
Spanish line:	Transmediterránea (Barcelona, and Bilbao to Canaries)
Belgian line:	Maritime Belge (Antwerp to gulf of Guinea)
Norwegian line:	Fred. Olsen

From this list it is clear that most of the steamships entering the Canaries were calling vessels.

H) FOR OR WITH MAIL

Since Las Palmas is conveniently situated at the crossroads of the oceans of the world, in addition to the mail routes from Spain which had their destination in the Canaries, other vessels called at Las Palmas or Tenerife both to bring mail to these ports and to carry it away. In addition to the Union and Castle Line vessels,[56] other steamships made mail calls in the Canaries, often bringing passengers as well. The African Steam Ship Company's mail steamers made a call at Tenerife en route to West Africa.[57] There were Spanish vessels on the runs from Genoa to Cuba and back and from Southampton to Kingston (Jamaica) and return, Portuguese liners on routes between Lisbon, Curaçao and Fort Lauderdale and on the Lisbon-Rio de Janeiro routes, vessels of the Lloyd Triestino and Navigazione Generale Italiano sailing between Genoa and South America and Greek vessels as well. After the amalgamation of the Union and Castle Lines in 1900 Union Castle intermediate vessels used to touch at Tenerife and Las Palmas alternately until 1939. Since the war fortnightly mail calls were made at Las Palmas by Union Castle liners, both on the outward and homeward voyages. But these have now been withdrawn. The development of regular air services has provided a quicker and more frequent alternative route for mails and so the mailship service to Las Palmas has virtually ceased, as it has done worldwide.[58]

51. *Spain and Portugal*, p. 133.
52. Davies, *The trade makers*, p. 58.
53. Davies, *The trade makers*, p. 151.
54. *Spain and Portugal*, p. 159.
55. *Spain and Portugal*, p. 100.
56. Marischal Murray, *Union-Castle Chronicle 1853-1953* (Longmans, 1953), p. 299.
57. Davies, *The trade makers*, p. 75.
58. The mail carried by air exceeded that brought by sea for the first time in 1956.

I) PASSENGER CRUISE PORTS OF CALL

The economic and social history of the passenger cruise trade is uncharted territory and only an outline can be given here. By 1884 the attractions of the Canaries with their soft climate and plentiful sunshine were being set out in articles in British journals, and tours were being advertised and no doubt similar advertising appeared in publications in other European countries. In the British case, intermediate steamers of both the Union Line and the Castle Line were doing well from the tourist trade. A circular of the Union Line, issued in 1889, referred to the Canaries as islands to which there was 'a growing traffic in invalids.'[59] The itineraries varied somewhat but in general the Castle liners went to Las Palmas and the Union liners to Tenerife.[60] To inform tourists, a literature developed. *Brown's Madeira, Canary Islands, and Azores* ran through many editions before it ceased publication in 1932 and was then succeeded by A. Gordon Brown, *Madeira and the Canary Islands* (3rd edition, 1963) which was specifically designed for the 'stop-over' visitors travelling on the Union Castle liners.

In 1912 it was reported that the number of ship passengers visiting Tenerife was 12,000. Twenty years later the number had grown to 37,000 while in the same year 43,000 passed through Las Palmas.[61] In 1940 the figure for Tenerife had risen to 43,000.[62] The passenger cruise business is subject to the competition of other forms of holiday and the whims of tourists. It declined after the Second World War when the stock of passenger vessels was low but the demand for cruising rose again in the 1960s. In 1968 a total of 450,000 passengers visited the Canaries while in 1982, 250,000 passengers landed at Tenerife and 268,000 at Las Palmas.[63] In the brochures which can be found in British travel agencies in the mid-1980s are advertised cruises by British companies (Cunard with the *QE II* and P & O with the *Canberra* and *Sea Princess*), the Norwegian line Fred. Olsen and the Russian CTC cruise firm. For a period in the 1970s the Finnish Finnjet, which was employed in the summer in the Baltic, operated as a cruise line out of Las Palmas in the winter. No doubt the pattern of passenger cruising will continue to change, but it seems likely that the Canary Islands will continue to have a place in the scheme of things.

Such traffic has a marked impact on the local economy. Wherever cruise liners called there was an incentive to provide for passengers. Cafés and restaurants, places of entertainment and shops grew up to cater for the tourists, and some proportion of the local population came to derive an income from the visit of passenger liners.

59. Murray, *Union-Castle chronicle*, p. 299.
60. Murray, *Union-Castle chronicle*, p. 299.
61. *Spain and Portugal*, p. 162.
62. Alexanderson and Nostrom, *World shipping*.
63. Instituto Nacional Estadistico, *Annuario estadistico de Espana*, LXIII (1983).

3) ESCALES POLITIQUES

J) IMPERIAL PORTS OF CALL

This is an aspect of ports of call which appears to have had very little importance as far as the Canaries were concerned. In the early modern period, because of the pattern of the winds and currents, Spanish vessels naturally called at the Canaries on their way to the West Indies or South America but from the nineteenth century when the sea routes were developed predominantly by British shipping there has been no need for purely political calls to maintain connections between the Canaries and the outside world. But these links were sharply reduced during the two world wars.

Finally, a rather unusual example is provided by the Dutch East Indiaman, the *Verenigde Provincien*, which called at the Canaries on its outward voyage in 1652 in order to get rid of some women who had been surprised by the sudden departure of the vessel from the Netherlands.[64]

CONCLUSION

As has been demonstrated above, the role of the Canaries as ports of call was the product of their geographical position and was greatly affected by changing trading relationships, a pattern of meteorological conditions, developments in marine and communications technology and other factors. Sometimes the requirements of a port of call had small and limited consequences and resulted in little capital investment but in other cases, of which the Canaries provide examples, the role of a port of call was of major significance,

64. Bruijn et al, *Dutch-Asiatic shipping*, II, p. 108.

resulting in substantial capital investment, a spread of expertise, developments in terms of organization and institutions and the growth of employment. But, of course, what is said here is only an outline. It is, however, a story which is worth telling at this length and, in the future, in more detail.[65]

65. This paper was presented at the V Coloquio de Historia Canario-Americana held at Las Palmas, Gran Canaria, 4-8 October 1982.

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Storm Along: An American Sea Anthology
A Manuscript by Joanna Carver Colcord in the Collection of the Peabody Museum of Salem

MARY MALLOY

JOANNA Carver Colcord was born sixty miles off of New Caledonia in March of 1882. Her father, Lincoln Alden Colcord, was master-owner of the barque *Charlotte A. Littlefield.* He and his bride, Jane, were on a honeymoon voyage from which they returned, after three years, with two children, both born at sea.

Joanna Colcord spent the first eighteen years of her life aboard her father's ships. She went ashore to attend the University of Maine and graduated cum laude with a degree in chemistry in 1906. She went on to receive a certificate from the New York School of Social Work in 1911 and began a life-long career in social service. She headed the Family Welfare Association in Minneapolis, was superintendent of District Work of the New York Charity Organization Society, represented the American Red Cross in the Virgin Islands, and became, in 1929, the director of the Charity Division of the Russell Sage Foundation in New York City. In her long career as a social worker, Joanna Colcord authored or edited a number of publications in that field, including 'The Long Way,' 'Emergency Work Relief,' 'Your Community,' 'Cash Relief,' and 'Broken Homes.'

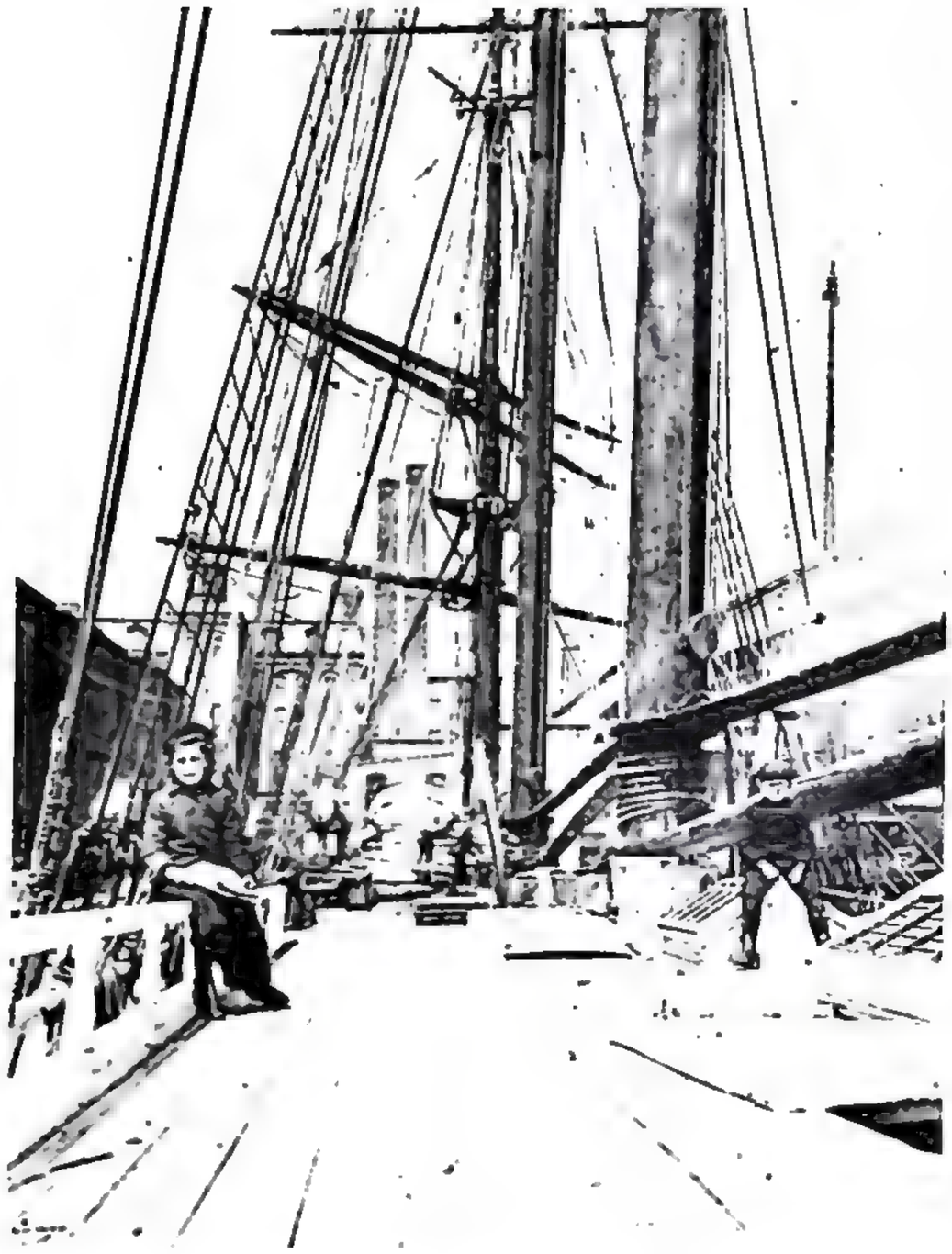
To those of us interested in the American maritime heritage, Joanna Colcord is also known as one of the primary collectors of American sea songs and language. In 1924 she published the first comprehensive collection of American sea music, *Roll and Go: Songs of American Sailormen,* which was revised and reissued in 1938 as *Songs of American Sailormen. Sea Language Comes Ashore* followed in 1945, and several articles were published in *The American Neptune.*

Roll and Go was originally intended to be a much larger work, encompassing not only sea music, but poetry as well. In his paper 'Joanna and the Colcords,' presented at the Mystic Seaport Second Annual Sea Music Festival and Symposium in 1981, Parker B. Albee, Jr., quoted from correspondence between Joanna Colcord and her brother Lincoln concerning her work on the text of *Roll and Go.* She concluded that she would have to 'defer the volume of seagoing poetry for another six months,' as the material collected was so voluminous it extended beyond the limits of one volume.

The volume of seagoing poetry was never published, though work progressed on it for another twenty years. On 5 December 1947 Joanna Colcord gave the unpublished manuscript of *Storm Along: An American Sea Anthology* to the Peabody Museum of Salem. She had become ill three years earlier, and it seems that this massive work was abandoned for health reasons.

Storm Along is a two-part work of 232 poems on over 1100 pages. Joanna Colcord introduced Part I, 'Sea Verse By American Authors' as follows:

> Verse by American authors has heretofore received scant notice in anthologies of the poetry of the sea, of which several have been compiled, but almost without exception in England. Especially has the work of our sailor poets gone for the most part unrecognized. Walter Mitchell of Nantucket has crept into several American anthologies with his "Tacking Ship Off Shore"; but his equally fine and authentic "Reefing Topsails" has found a haven only in the scrapbooks of elderly seamen. It is verse such as this, perhaps not of a high order as poetry, but of unimpeachable seamanship, which most endears itself to the sailor's heart, and samples of which can be found wherever he turns out his pockets in search of some



Clara E. McGilvery, barkentine built 1873, Searsport, Maine; L. A. Colcord, master. Pictured are Joanna C. and Lincoln Colcord, about 1890. (Courtesy of Peabody Museum of Salem.)

dingy and dog's-eared clipping. For the rest, the sailor brings a suspicious mind to poetry by a landsman. He has endured much dull suffering at the hands of those who found the sea a picturesque setting for song and story; but who brought to the task no technical equipment; and who had no realization of the importance, to the man bred to the sea, of ropes that lead down in the right places, of orders given in their proper sequence, and all such minutiae. Enough work by real sailor poets—and sailors will be able to pick them out—has been included in this collection to satisfy the most exacting.

There are also included many poems by poets who are not sailors, but whose deep feeling for the sea makes their work precious to all who love both good poetry and seafaring. Minor technical errors in seamanship have not been allowed to exclude such poems from this collection. We realize that one of our authors sails wing-and-wing into the teeth of the wind; and that another sends his ship to Singapore around the Horn instead of around the Cape; but we make no apologies. We have sought here to give the sailor poets their due place of prominence, without excluding the landsmen whose love of the sea and whose spiritual comprehension of its meaning and its life may have exceeded their technical knowledge of seamanship.

Walter Mitchell and the sailor poets keep excellent company in the five sections of Part I. Melville, Longfellow, Whitman, Whittier, and the compiler's brother, Lincoln Colcord, are all represented, as are such diverse sources as Ovid's *Metamorphosis* and the State Street Trust Company.

The 125 poems of this section are organized under the following headings: 'Ships and Ships' Companies'; 'The Paths of the Sea'; 'Legendry'; 'Alongshore'; and 'In Lighter Vein.'

Part II of *Storm Along* is an 'American Naval and Maritime History in Verse.' Each of the 107 poems illustrates an event in American maritime history, and each is placed in its historical context in an introduction by Colcord. The chronology begins with piracy and offshore whaling in the eighteenth century and runs through 200 years of naval and commercial ventures to the outbreak of World War I, which Colcord felt offered little literary material for her project.

No attempt has heretofore been made to bring together in chronological order poems and ballads relating to our maritime and naval history, although there are several good collections of historical verse in which such material is interspersed with that relating to military operations and other events ashore.

A great deal of the verse relating especially to our earlier naval history is in the form of anonymous ballads, often accounts of eyewitnesses or participants in the events described. Others, especially during the War of 1812, are music-hall songs which hit the popular fancy. They were circulated in the form of ballad-sheets or 'broadsides,' roughly printed on one side only, which were hawked about the streets and sold for a trifling sum. Many of these broadsides, preserved in libraries and historical collections, are included in the following pages. Considered as poetry, they are of little value; but as vivid presentments of the spirit of the times, they are priceless; and they often have a quaint literary value of their own.

During the Revolution, naval warfare on the American side was confined almost entirely to the exploits of the privateers, merchant vessels which were hastily pierced for guns and fitted out to prey on the enemy's commerce. Such craft were no match for British ships-of-the-line. With the single exception of the battle of Flamborough Head, where Commodore John Paul Jones, in command of a fleet of ships furnished by the French, defeated a portion of the English Baltic fleet, there were no heavy naval engagements during the war;

and the song and verse of the period deals mainly with the daring deeds of the privateers. It was in this school that American sailors learned the lessons of bold attack, quick manoeuvering and handling of their smaller vessels, and well-placed gunfire, which were later to stand them in such good stead during the War of 1812.

During the intervening period, the young nation enlarged its navy to include several good-sized frigates, chastised the French, and conducted a successful war against the Barbary States; but when reluctantly forced to take up arms against England for the second time, our people had had no experience that would warrant them in supposing that they were a match for their powerful adversary upon the seas. There is plenty of evidence in the debates of Congress of the times to show that our Government had no notion of the part naval warfare was to play in the oncoming struggle. America placed its reliance, as during the Revolution, mainly upon the privateers; and proceeded to commission them in great numbers. But while the part played by the privateers during the second war was a stirring and noteworthy one, chief credit for winning the war fell to the little navy.

To understand the somewhat bombastic tone of contemporary ballads, we need to keep in mind certain facts. While the young nation had won its liberty during the Revolution, it soon found that this counted for little upon the sea. English and French armed ships, at death grapple with each other, thought nothing of stopping the vessels of this new and weak country upon the seas, and taking from them with little pretence of legal process the men they needed to fill their depleted crews. Our ships and cargoes were liable to seizure if they were caught by either belligerent in the act of trading with the enemy. There seems to be no doubt that British naval men in particular behaved with an arrogance and a complete contempt which galled American sailors unbearably. England had no doubt of her supremacy upon the sea; and neither had the young United States. So that, when after the outbreak of the war, into which we went with foreboding and sorely against our will, news of one after another naval victory came pouring in, it is little wonder if the country went mad for a time, and as is shown by these old ballads, began to believe itself invincible upon the sea.

But this is all now a story of the dim past. Long since have England and the United States healed the great breach and struck hands of friendship. Both realize that the worst of all disasters would be the sundering of those hands. And it is not with any idea of recalling old quarrels that these songs have been brought together; but rather in the hope that both English and American readers may find a historical and impersonal interest in these contemporaneous voices from a time of strife long past and gone.

For the same reason, an effort has been made in the section which deals with the Civil War to include poetry from both camps—not to reawaken quenched fires, but to list and name the doughty deeds of all our sailors, in which both North and South can now take pride.

Though the Spanish-American War brought forth a flood of verse, there were none of the artless ballads such as tell the story of our other wars. Much of it was ephemeral verse of the newspaper variety; and no attempt has been made to include a complete collection here of even the best verse of the period. A few poems have been included, covering the main events of the war as far as they are concerned with naval actions.

The Great War, for some reason, did not inspire our poets to deal with it from a naval point of view. So insignificant is the bulk of naval verse of this period that we have thought it best to make no attempt to cover it in this collection, the purpose of which is mainly, after all, to preserve the relics in verse and song of the older days, and particularly of the days of sail.

Piracy and its decline at the hands of American sailors are the subject of the first poems. One, 'The Downfall of Piracy,' is attributed to the young Benjamin Franklin and begins:

Will you hear of a bloody Battle,
  Lately fought upon the Seas,
It will make your Ears to rattle,
  And your Admiration cease;
Have you heard of Teach the Rover,
  And his Knavery on the Main;
How of Gold he was a Lover,
  How he lov'd all ill got Gain.

Whaling is introduced next.

Whaling began in the United States at first as a 'longshore industry,' prosecuted in small boats. As early as 1651, the inhabitants of Easthampton, Long Island, ordered that 'Goodman Mulford shall call out ye town by succession to loke for Whayle.' This spirited account of the taking of a whale probably dates from much later on, shore fishing having been practiced from Long Island and Cape Cod as late as 1760.

The poem being introduced here is an old broadside 'War with the Leviathan: or The Royal Fisher.' Colcord gives it the date of 1760?, but does not give her source. The poem begins with the following two stanzas.

Why stay we at Home, now the Season is come,
  Jolly Lads, let us liquor our Throats;
Our Interest we wrong, if we tarry too long,
Then all Hands let us fit out our Boats:
  Let each Man prepare
  Of the Tackling his share,
By Neglect a good Voyage may be lost;
  Come, I say,
  Let's away,
  Make no stay,
  Nor Delay,
For the Winter brings Whales on the Coast.

Harry, Will, Robin, Ned, with bold *Tom* in the Head,
And *Sam* in the Stern boldly Stand;
As rugged a Crew (if you give them their Due)
As e'er did take Oars in their Hands:
  Such Heroes as these,
  Will with Blood stain the Seas,
When they join with their resolute Mates,
  Who with might,
  Void of Fright,
  With Delight,
  Boldly Fight
Mighty Whales, as if they were but Sprats.

The Revolution is dealt with strictly from a naval aspect so John Paul Jones is, unsurprisingly, the subject of six of the twelve poems dealing with that period. The China Trade is represented by only one poem, 'The Bold Northwestman,' which is actually about a battle between fur traders and Indians along the Northwest Coast. This is just one example of important maritime commerce being slighted in the chronology because of a lack of poetic material, and points out the historical problems in a work of this nature.

The *Constellation*'s battle with the French ship *L'Insurgente*, the siege of Tripoli, the British impressment of American sailors, the introduction of steam, and the embargo are all illustrated in song or poem, many of them by unknown sailors involved in the incident described.

The War of 1812 changed the tone of American naval poetry, a new note of patriotic fervor being introduced. In her introduction to the 'First Fruits of 1812' Colcord gives the reason for this.

> Since the Embargo was a failure, and the encroachments upon our commerce continued and became yearly more intolerable, war was finally declared against England on June 18, 1812. Our naval force at that time consisted of about 70 vessels, mustering only about 500 guns. As has been already stated, the British confidence in their own supremacy on the sea was shared by our people; and not until the 'lucky *Constitution,*' returning from a foreign cruise, began her signal series of victories was any degree of popular confidence awakened in our naval prowess.

Twenty-eight poems trace the history of the War of 1812. More than half of them are by unknown authors, and many have suitably patriotic titles, 'Our Naval Heroes,' 'Glorious Naval Victory,' 'Huzza for the *Constitution,*' 'Huzza for the American Navy!,' and 'Huzza for the New Seventy Four' among them.

And so the war ended in a blaze of glory, the British, with true sportsmanship, admitting without hesitation that they had been bested at sea.

Between the War of 1812 and the Civil War, commerce and exploration are touched upon lightly. The Salem pepper trade, a multi-million dollar industry that spanned more than half a century and introduced names like Bowditch, Derby and Crowninshield into American maritime history, is represented by one very weak poem called 'The Battle of Qualah Battoo.' Colcord describes it as a 'broadside ballad, with a quaint prose introduction.'

> It will be remembered that the ship *Friendship,* of Salem, while at Qualah Battoo, on the Island of Sumatra, in the Indian Ocean, was taken by natives and all hands murdered. When the intelligence was received by the American Government, the U.S. Frigate *Potomac,* Captain John Downes, was immediately ordered to that place to chastise them; which was effectively accomplished on the night of the 7th of February, 1832—convincing them that the stars and stripes of Uncle Sam are not to be trampled upon, nor the lives of American tars sacrificed with impunity.

The poem includes the following refrain:

Our boats were soon launch'd on the west of the billows,
  And moored till the word of command should be given;
On deck we reposed with our swords for our pillows,
  And committed our cause with its justice to Heaven.

The Civil War, while not as well represented as the War of 1812, has fewer works by unknown sailors (only four poems out of twenty-three are by unknown authors), and more works representing major poets including Longfellow and Melville. Colcord uses the incident of the sinking of the stone fleet, and Melville's poem on the subject to introduce the Civil War.

The first duty of the Northern navy in the Civil War was to blockade the coast ports of the South. To aid in this, the plan was conceived of buying up old merchant vessels, particularly the whalers, which lined the wharves of the New England ports, and after loading them with stone, sinking them at the entrance of the harbors as obstacles to navigation. Accordingly, in November and December, 1861, thirty-eight vessels, of which twenty-four were New Bedford whaleships, left port for the last time and proceeded under their own sail to Port Royal, whence they were distributed along the coast and sunk in channels and fairways, the majority being used in the blockade of Charleston. The attempt, which cost the Federal Government $150,000 was a complete failure, the ships sinking deep into the mud or breaking up.

THE STONE FLEET
An Old Sailor's Lament

I have a feeling for those ships,
  Each worn and ancient one,
With great bluff bows, and broad in the beam;
  Ay, it was unkindly done.
    But so they serve the Obsolete—
    Even so, Stone Fleet!

You'll say I'm doting; do you think
  I scudded round the Horn in one—
The *Tenedos*, a glorious
  Good old craft as ever run—
    Sunk (how all unmeet!)
    With the Old Stone Fleet.

An India ship of fame was she,
  Spices and shawls and fans she bore;
A whaler when the wrinkles came—
  Turned off! till, spent and poor,
    Her bones were sold (escheat)!
    Ah! Stone Fleet.

Four were erst patrician keels
  (Names attest what families be),
The *Kensington*, and *Richmond* too,
  Leonidas, and *Lee;*
    But now they have their seat
    With the Old Stone Fleet.

To scuttle them—a pirate deed—
  Sack them, and dismast;
They sunk so slow, they died so hard,
  But gurgling dropped at last.
    Their ghosts in gales repeat
    Woe's us, Stone Fleet!

And all for naught. The waters pass—
  Currents will have their way;
Nature is nobody's ally; 'tis well;
  The harbor is bettered—will stay.
    A failure, and complete,
    Was your Old Stone Fleet.

The end of the whale fishery came close on the heels of the Civil War and Colcord speculated on the reasons for the demise of the industry in the introduction to Tom Oxford's poem 'The Wrecked Whalers.'

The damage done to the whaling industry by the Civil War was followed up ten years later by another severe blow, when the better part of the Arctic fleet was destroyed in the ice to the northward of Bering Strait (June-September, 1871). Thirty-four vessels were hemmed in by ice-floes and crushed one by one against the coast. As the situation grew more serious, and it was seen the ships would have to be abandoned, an expedition was sent south to the limit of the ice-pack, to see if any ships remained in the open sea. The expedition returned reporting seven ships out of danger. The captains of the imprisoned whalers then sent the following letter to the masters of the other ships:

'Counting the crews of the four wrecked ships, we number some twelve hundred souls, with not more than three months' provisions and fuel, and no clothing suitable for winter wear. An attempt to pass the winter here would be suicidal. . . . We realize your peculiar situation as to duty and the bright prospects you have for a good catch in oil and bone before the season expires, and now call on you, in the voice of humanity, to abandon your whaling, and put yourselves in condition to receive on board ourselves and crews, for transit to some civilized port, feeling assured that our Government, so jealous of its philanthropy, will make ample compensation for all your losses.'

Taking to their whaleboats, the entire party, including some women and children, abandoned their vessels and after two days of hardship, reached the rescue fleet without a single life being lost, and were eventually landed in Hawaii. Some compensation was received from the United States Government for passage money; but the industry suffered a blow from which it never recovered.

The history of whaling, fishing and trading suffer greatly in this chronology because of the nature of the work. Where there was no existing poetry, subjects were eliminated, and certain events became representative of whole industries merely because they were captured in verse. Fishing, for instance, a major industry of great antiquity and importance is mentioned only once and 'The Lord's Day Gale' by Edmund Clarence Stedman is the only representative poem.

By the same token, some events of less historic significance are magnified in importance, because there is a body of poetic material on the subject. 'The Cheer of the Trenton' is one example.

In March, 1889, the Samoan Islands were visited by a severe hurricane. Lying in the harbor of Apia were several English, German and American warships. As most of them had not sufficient power to go to sea in the face of the terrible wind, six of them were driven ashore or dragged on the reefs, with a loss of about one hundred and fifty lives. In the height of the storm, the British corvette *Calliope* slipped her cable and, inch by inch, forced her way to seaward and to safety. As she forged past the American flagship *Trenton*, the latter's crew, with almost certain death just under the ship's stern, lined the rail and gave the *Calliope* a cheer.

The London Telegraph, commenting on the occurrence, said:

'Consider the scene and the matchless heroism and generosity of this Yankee crew. Almost sure of instant death themselves they could see the Queen's ship fighting the hur-

ricane and appreciate the gallantry of the effort with the generous pleasure of true mariners. We do not know in all naval records any sound which makes a finer music upon the ear than the cheer of the *Trenton*'s men. It was distressed manhood greeting triumphant manhood, the doomed saluting the saved. It was pluckier and more human than any cry raised upon the deck of a victorious line-of-battle ship. It can never be forgotten by Englishmen speaking of Americans. The dauntless cheer of the *Calliope* was the expression of immortal courage.'

This generous introduction is for Walter Mitchell's poem 'The Cheer of the *Trenton*' which begins:

Our anchors drag and our cables surge
  At every shock of the hurtling sea,
While the most of breakers veils the verge
  Of the reef of coral under our lee.

From east by north to north-north-west
  The wild typhoon veers sweep on sweep,
And from moment to moment the crosswave's crest
  Buries our waist in its sidelong leap.

The Spanish-American War began with a naval incident, the sinking of the ship *Maine*, and it is represented by thirteen poems. It was interesting to note in the discard pile of poetry and correspondence that accompanied this manuscript, a letter from Commander W. L. Cathcars offering his poem, written in 1910, urging support from Congress and the public for the raising and ceremonial re-sinking of the hulk of the *Maine*. He explains in his letter the incident of the sinking and his speculations on those 'diplomatic reasons' why the ship had not been raised.

The neglected ship, with her dead, lay there in the foul ooze of one of the most unclear harbors in the world—a sunlit sewer. Captain Sigsbee, her commander—one of the ablest and most gallant men who ever served our flag—made constant efforts to secure an appropriation to raise the ship, and bury her dead. But, the Congress of those days were dominated by sordid selfishness. Their attitude was, in effect: 'Damn the *Maine*! She controls no votes!' Those gentry favor only those places where, like the leaves of Vallombrosa, 'the votes lie thickest.'

Whether Cathcar's poetic style was, like his letter-writing, difficult to digest, or whether Colcord decided not to include a poem that was aimed at the raising rather than the sinking of the ship, Commander Cathcar's poem is not included. (The ship was, in fact, eventually raised, and according to Commander Cathcar, 'towed to sea by an escorting squadron . . . her valves opened, she gradually filled, and with her flags flying, she sank while the mourning guns boomed, and the flagship's band gave her a last musical salute.')

The poetry of the Spanish-American War displays more bitterness toward the foe than that of any of the other periods represented in the chronology. 'Santiago,' by Thomas Janvier, begins:

In the stagnant pride of an outworn race
  The Spaniard sail'd the sea;
Till we hailed him up to God's judgement place—
  And smashed him by God's decree!

With the end of the Spanish-American War, came the end of Colcord's chronology. World War I offered little poetry.

The Great War (1917-1918) offered no opportunity for the American navy to participate in sea-warfare on a large scale. The destruction of submarines and the protection of commerce did not seem to inspire our poets to flights of song; and so for the most part those stirring and eventful days remain uncelebrated in verse.

James Barnes' 'Song of Then and Now' is the last work in the chronology. Colcord describes it as a 'final tribute to the Old and the New Navy.' It ends:

Let us sing the song of Wind and Sail—
  Brave deeds of the captains bold!
Never a name but was known to fame,
  And was praised in the days of old.
Let us sing the song of the armored ship,
  With the ramming, roaring bow!
For the Flag is the same, and the men are the same—
  'Tis the song of Then and Now!

STORM ALONG: AN AMERICAN SEA ANTHOLOGY

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Mary Malloy, coordinator of public programs and docent training at the Peabody Museum of Salem, is a native of the Pacific Northwest and graduate of the University of Washington, Boston College and the Munson Institute of Maritime Studies. Malloy is an active performer of traditional sea music; she appears on four Folkways albums, and has given concerts and lectures at maritime museums across North America.

Book Reviews

AMERICAN MARITIME PRINTS (New Bedford, Massachusetts: Old Dartmouth Historical Society, 1985). 6″ x 9¼″, hard cover, 293 pages, numerous illustrations, charts and index. $25.00.

This book, a compilation of the several papers read at the Eighth Annual North American Print Conference, is bound to interest all collectors, whether the quarry they pursue be rare prints, marine paintings, shipping cards or coastal views. For while collecting is an intriguing game, it is also a hobby fraught with pitfalls and thorny problems, with disappointments and complexities of all kinds. But once its finer points are mastered it can become a most gratifying pastime.

For instance, the opening chapter in this book is a fascinating account of *The Atlantic Neptune*, the first great marine atlas of the eastern seacoast to be issued. Among other things, it makes clear the difficulties experienced by a collector determined to gather and collate the many charts and coastal views produced by Joseph Frederick Wallet Des Barres [1721-1824], the noted cartographer. In short, anyone intent on forming an impressive, well-rounded collection needs to possess unlimited patience and perseverance, plus an encyclopedic mind and an enduring love for the game. The fact is that collecting Des Barres' works, published over a period of years and issued in many states, makes clear how important it is to both novice and connoisseur alike that they develop such qualities.

For similar reasons, the monograph dealing with 'American Whaling Prints Copied from European Sources' should not be passed over lightly. It is crammed with worthwhile information and quite a few extraordinary disclosures. From it readers will learn why so many illustrations and prints depicting the early whale fishery are held to be either inaccurate, fanciful or suspect. Among the score of prints reputedly copied or faked is one 'German print with an English title depicting a French ship, pirated in England to pass for American.'

Sandwiched between these two chapters are a handful of shipping cards, maritime industries, ship portraits and scenes of domestic life in a whaling port. Each is well written and presented in a fully developed and meaningful manner.

The book contains innumerable illustrations augmented by color plates, charts and a number of striking seascapes and port scenes. Moreover, the authors have penned into each article a vast amount of useful knowledge. For these and other related reasons anyone already collecting or thinking of collecting will find this book worth owning.

RUSSELL W. KNIGHT

Marblehead, Massachusetts

PAUL FORSYTHE JOHNSTON, *Ship and Boat Models in Ancient Greece* (Annapolis, Maryland: Naval Institute Press, 1985). 7⅝″ x 10¼″, cloth, xii + 187 pages, 58 illustrations, map, bibliography and index. $24.95.

'They were used as toys during childhood, as both sacred and profane objects during maturity, and as funerary objects at death,' states Johnston in a succinct summary (page 129). Despite this, despite the fact that they (page 1) 'are unique among the various forms of evidence for ancient seafaring,' providing 'information totally lacking in two-dimensional representations of watercraft (wall and vase paintings), in low reliefs (coins, gems, seals, and relief sculpture), or in nautical archaeology (shipwrecks),' the models of ships and boats that have survived from Greek antiquity have never received proper scholarly scrutiny. Now they have, in this comprehensive and detailed study.

Adopting the format introduced by Morrison and Williams in their *Greek Oared Ships* (1967) for the study of two-dimensional representations, Johnston catalogues and analyzes the 130 or so extant models, ranging from miniature terracottas to big stone monuments. Each is listed with a scrupulously careful description, an exhaustive bibliography, and, for the more important, a photograph or line drawing. As a bonus, three appendices present the various mentions of models in inscriptions and literature, the occur-

rences of models in pictured scenes, and a short résumé of the use of models in subsequent times.

Survival of the models was solely a matter of chance, and, understandably, so too is their chronological distribution. There are almost thirty from the Bronze Age, slightly over half a dozen dating from 900 to 700, over fifty from 700 to 500, a mere four from the great Classical Age of Greece, and almost forty from the last period Johnston treats, the Hellenistic Age (300 to ca. the end of the first century B.C.). These numbers in themselves are not significant; the number of models dating from 700 to 500, for example, was swelled by almost two dozen that were unearthed during the excavation of the sanctuary of Hera at Samos. What is significant is that three-quarters of all models whose provenance is known come from the Greek islands (page 126), i.e., from where seafaring was a prime feature of life. Another significant statistic is that only the Bronze Age models depict all types of vessels, small craft and merchantmen as well as warcraft; thereafter warcraft preponderate ten to one (page 127). As Johnston suggests, this may well reflect the fact that in Bronze Age times there was as yet little distinction between merchantmen and men-of-war.

Some of the models were never before published, and, of those that were, not a few were accompanied by cursory or uninformed descriptions. Johnston's key contribution is precise and exhaustive descriptions in which, thanks to a keen eye and nautical background, he accounts for all the various features—all the painted or incised lines, protuberances, apertures, etc.—a good many of which had hitherto been overlooked or misinterpreted. One of his major discoveries is in connection with the batch of models from Samos: these, as it happens, are all of wood, and one of them, unfortunately surviving only in fragments, is the sole example discovered so far of a built model (pages 46 and 60).

The warship models dating from 900 to 700 have a projection at the prow which Johnston (page 36) hesitates to call a ram, since he is reluctant to date its introduction that early. F. van Doorninck's recent publication of an undoubted representation of a ram on a bronze fibula of ca. 850 B.C. (*International Journal of Nautical Archaeology*, [1982], II, pages 277-86) appeared too late for inclusion; the article, moreover, should be added to the bibliography under entry *BA* 25, page 32.

The models provide no dramatic revelations but rather a series of bits of information on particular points. Johnston has wrung from them every bit they have to offer. His study is an essential reference tool for historians of ancient naval technology.

LIONEL CASSON

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JOHN COATES and SEAN MCGRAIL, editors, *The Greek Trireme of the 5th Century B.C.: Discussion of a Projected Reconstruction* (Greenwich, England: National Maritime Museum, 1985). $5\frac{5}{8}$" x $8\frac{1}{4}$", paper, 140 pages, 30 photographs, drawings and charts. £8.

The ancient *trieres* (Lat.: *trireme*), a warship over 100 feet long with 170 rowers distributed over three superimposed oar banks, was one of the most critical factors in the rise and spread of classical Greek civilization beginning in the early fifth century B.C. Despite its historical significance, however, very little is known about this vessel. None has yet been discovered in an archaeological context; there are no complete depictions in any ancient medium, and the written sources of the period are largely silent on the subject. In fact, until a few years ago, when an intact bronze warship ram was found in the waters off Athlit, Israel, no element of any ancient Greek or Roman warship had ever been discovered.

This lack of contemporary evidence has not prevented scholars over the past few hundred years from speculating as to the architecture, rowing arrangement and other details of these most complex manifestations of ancient technology and warfare. In 1941, John S. Morrison published a seminal article in *Mariners Mirror* on the *trieres;* since then, both Morrison and other scholars have only been able to refine and elaborate upon his analysis, without adding much original information of any significance to the issue.

In the last twenty years, however, scientific inquiry into other areas of ancient seafaring in general has advanced our knowledge of ancient shipbuilding, and recently a group of Britons decided to construct a full-scale replica of a fifth century B.C. *trieres*. In April 1983 a symposium was held at the National Maritime Museum in Greenwich, London, to review and refine the proposed plans for the replica. This book represents the proceedings of that conference, in the form of four

formal papers with responses from the remaining participants.

The first paper is by Professor John Morrison, who briefly describes the historical background and significance of the *trieres* in the ancient world and outlines the three principal reasons for the reconstruction. These include the investigation of the practicality of the three-bank oar system, the *trieres*'s relationship with other ancient warship types, and the *trieres* as an example of highly evolved and specialized technology.

J. Richard Steffy, ship reconstructor for the Institute of Nautical Archaeology at Texas A&M University and recent recipient of the so-called 'genius award' from the John and Katherine MacArthur Foundation, provides the second paper, 'Structural Philosophy and Technology.' Drawing upon his experience in rebuilding the hulls of ancient shipwrecks and designing replicas, Steffy proposes that certain considerations be taken into account by The Trireme Trust in relation to the historical and design requirements for their reconstruction. His topics range from the matter of aesthetics to hull fastenings, strake edge joinery, appropriate types of wood, power tool usage and efficient deployment of labor forces (both ancient and modern).

In the third paper, 'Techniques of the Reconstruction,' the late Cmdr. Eric McKee discusses practical detail elements of the *trieres* reconstruction, based upon his own experiments with the structural and strength characteristics of wood and his observations of ancient hull construction. He advocates two different planking schemes for the underwater and topsides portions of the hull, certainly a novel concept and not one used by ancient shipbuilders. McKee also sets forth a plan for the station spacing of the hull and explores alternatives for fastening the strakes to one another and to the stempost.

Naval architect John F. Coates begins the fourth paper, 'The Naval Architecture of the Trireme,' with a statement regarding his aims: to produce a workable design conforming to the historical and design requirements, seeking throughout the 'smallest, cheapest and simplest answer to every question.' The arrangement of the rowers in three banks and their placement within the hull occupies the majority of his paper, since the rowers' number (170) and deployment are the most important factors in the design. The hull shape and resistance, power and speed are also discussed both in his text and in graphic format, and a tentative sail plan spread over two masts is also proposed. Coates's paper concludes with a few brief remarks on hull strength, a comparison of the *trieres* with its ancestors (the *triakonter* and *pentekonter*), a set of seven tables outlining principal measurements and a hypothesis for the placement of the *hypozomata* (hull bindings).

The texts of the four principal papers are followed by three sections of general discussion about various design elements of the proposed reconstruction. Two participants submitted alternate designs; other discussants suggested alternatives to discrete details. The final section, prepared by Coates after the conference ended, incorporates some design modifications resulting from suggestions by the participants. At the volume's end is a group of four drawings for the final design.

At the time of this writing, the keel for the *trieres* has been laid at a shipyard in Perama, the shipbuilding and repair region of the Piraeus (Athens), a few blocks from where the Kyrenia Ship Replica was built and launched in June 1985. Although it is of course impossible to anticipate all of the complex problems and solutions in a project of this sort prior to construction, this volume, and the variety of talents and resources it incorporates, should serve as a model for all such endeavors in the future. The final result, a full-scale reconstruction of one of history's most famous and controversial warship types, will undoubtedly be eagerly awaited by all those even marginally interested in naval architecture and maritime history.

PAUL FORSYTHE JOHNSTON

Salem, Massachusetts

JAMES C. BRADFORD, editor, *Command Under Sail: Makers of the American Naval Tradition* (Annapolis, Maryland: Naval Institute Press, 1985). 6″ x 9″, cloth, 288 pages, 30 illustrations, appendices, bibliography, notes, and index. $24.95.

In a recent issue of this journal a reviewer lamented the redundancy of much of the literature about the United States Navy during the sailing ship period. This book represents a significant step toward redressing the grievance.

Professor Bradford has gathered fresh essays by twelve currently active academic historians (most of

them well known to *American Neptune* readers) about twelve icons of American naval history: Esek Hopkins, John Paul Jones, John Barry, Edward Preble, William Bainbridge, Thomas Macdonough, Oliver Hazard Perry, David Porter, Isaac Hull, Stephen Decatur, John Rodgers, and Richard Stockton. The result is not only a handy and eminently readable collective biography, but a summary of the field in its current state. The future student of naval historiography will compare this work to those of James Fenimore Cooper and Fletcher Pratt, and will conclude that this corner of the literature neatly mirrors the developments that have taken place in the rest of the historical profession. Modern historians are examining traditional naval heroes with modern methodology, and reaching modern conclusions.

Several of the essays endow their subjects with remarkably human foibles. Craig Symonds concludes that Bainbridge lacked 'breadth of vision and imagination.' David F. Long's delightful essay on Porter asserts that he 'was brave and impetuous, and he definitely had his share of pride. . . . As a representative of the officer corps in the Age of Sail, David Porter stands well to the fore.' K. Jack Bauer labels Rodgers 'The Stalwart Conservative.' Isaac Hull, in Linda Mahoney's account, is a poignant figure, spending most of his career in command of dockyards and trying desperately to end it on the quarterdeck of a ship-of-the-line, despite two strokes and almost total deafness.

On the other hand, future generations of naval officers seeking inspiration will find in most cases that the iron men of the wooden ships are only slightly corroded. The officers selected are, generally speaking, the less controversial ones; Manley, Truxton, Barron, and Lawrence, for example, are absent. William James Morgan paints Barry as 'A Most Fervent Patriot'; Perry is described by John K. Mahon as 'Savior of the Northwest'; and John H. Schroeder's Decatur is an 'Heroic Ideal for a Young Navy.' The only real broadside comes in Christopher McKee's sketch of Preble, and is directed not at the commodore himself but at poor old Fletcher Pratt—who probably would be astonished to receive such scholarly attention. Pratt claimed that the naval war of 1812 was fought by 'Preble's Boys,' a generation of officers whose professional outlook was shaped by the force of his personality. McKee, through the use of statistics, establishes that Preble's influence came not from his character but from the fact that, in so small a navy, it was difficult for an officer to escape serving under him.

For many readers the most enlightening chapter will be Harold R. Langley's sketch of Stockton. The latter served as a junior officer in the War of 1812, led the reform movement that outlawed flogging, and was a major figure in the labyrinthian negotiations that settled the fate of California during the Mexican War.

The sailing navy's officer corps was a small club, membership in which was based to a large extent on shared experiences. As a result an anthology such as this one is bound to contain some repetition. The novice may tire of reading about the *Philadelphia* disaster and the *Chesapeake-Leopard* affair, for example. (He also may be confused by a few errors, including a mixup between James Barron and his brother Samuel.) The interesting 'Further Reading' sections that follow the individual essays also duplicate each other more than once, but offer most useful guides to the primary and secondary source materials. The guides to the locations of the various officers' papers will be worth the price of the book to any serious scholar, and the concluding bibliography may be regarded as definitive.

The sketches of the contributors tell us that several new editions of private papers are in preparation. Their appearance probably will produce some revisionist biographies. (Jones and Decatur, in particular, are about due for a debunking.) Perhaps, though, we should let these scholars convince us that most of the old commodores on the pedestals actually belong there.

Enthusiasts and professional historians will regard *Command Under Sail* as a benchmark in the historiography of the early United States Navy. It summarizes the current state of the field, while offering bright prospects of some fine writing to come.

JOHN A. TILLEY

East Carolina University

FREDERICK C. DRAKE, *The Empire of the Seas: a Biography of Rear Admiral Robert Wilson Shufeldt, USN* (Honolulu, Hawaii: University of Hawaii Press, 1984). xvi + 470 pages, end notes, name index and subject index. $29.95.

This is the first full-length biography of a man whom the author characterizes as 'the key diplomatic and naval link between [Matthew C.] Perry and [Alfred T.]

Mahan.' His naval career spanned the years 1839-1884 with a hiatus between 1854 and 1863 when he had resigned to take part in civilian activities. Robert Wilson Shufeldt is best known for his negotiation of the treaty which 'opened' Korea to trade with the West in 1882. He also headed an expedition to survey the isthmus Tehauntepec for a possible inter-oceanic canal, served as chief of the Navy's Bureau of Equipment and Recruiting, commanded a voyage in U.S.S. *Ticonderoga* from Norfolk to Nagasaki in 1878-1880 which called at many ports in Africa and the Far East with a view to developing both diplomatic and commercial relations, and presided over a Naval Advisory Board in 1881-1884 which took a leading part in planning the 'Squadron of Evolution,' the Navy's first steel-hulled warships. During his years out of the Navy he commanded merchant steamers, was a major figure in the Louisiana Tehauntepec Co., and served as United States consul-general in Havana. He was deeply concerned with the expansion of the foreign commerce of the United States as a means of stimulating domestic production, and the opening of routes for these exports to new markets especially in Africa and Asia.

Frederick C. Drake was born in Great Britain, took his B.A. and M.A. degrees at the University of Manchester, and his doctorate at Cornell University. He is associate professor of history at Brock University, St. Catherines, Ontario, Canada. This study is based primarily on the thirty-seven boxes of Shufeldt papers in the Library of Congress, but also on official State Department and Navy Department records in the National Archives and on other materials in a host of libraries across the United States. The book contains extensive end notes as well as a bibliographical essay, organized chapter by chapter, which runs to eighteen pages in length. It is illustrated by twenty-six photographs and drawings and eleven maps. Some of the latter are indifferent copies of the originals, and are difficult to use.

In his preface and concluding chapter, Drake presents his analysis of Shufeldt's accomplishments and significance. Beyond these, the book consists of fifteen chapters which are chronologically organized. Based primarily on the Shufeldt papers, they consist to a large extent of official letters and reports summarized or quoted. Most of these are addressed to secretaries of the Navy or State, other government officials, or senior naval officers. The text reflects the rather formal style of these. With the exception of letters to and from his adopted daughter, the book has few informal, personal aspects, and the admiral emerges as a rather shadowy personality. There is relatively little about his private life, his relations with fellow naval officers, or life in the Navy of his day. This reviewer found the text frequently 'heavy going,' and felt that connections between the events frequently described in great detail in the body of the text, and the generalizations at the beginning and end of the book were difficult to keep in mind.

Shufeldt was certainly an important figure in the Navy of the Reconstruction and the period immediately following, and this painstaking biography is a desirable addition to the bibliography of American naval history.

JOHN HASKELL KEMBLE

Pomona College

DAVID R. MACGREGOR, *Merchant Sailing Ships 1815-1850, Supremacy of Sail* (Annapolis, Maryland: Naval Institute Press, 1984). Cloth, 192 pages, illustrations, appendices, references, sources, and index. $21.95.

David R. MacGregor is already an established scholar and erudite author by virtue of his numerous books about merchant maritime history—*The Tea Clippers, Fast Sailing Ships 1775-1875, Clipper Ships,* and *Merchant Sailing Ships 1775-1815,* to name a few. His reputation is further enhanced by this volume, which scrutinizes the British merchant sailing vessels in the years from 1815-1850. The bulk of his research is devoted to the fore-and-aft and square-rigged vessels, preceded by a short chapter about the British sailing industry and followed by a chapter on passenger and packet ships.

Free trade is essential for a nation to gain the benefits of comparative advantage. If one nation can produce two goods more economically than another nation, it should specialize in the production of the one good it can produce most profitably, and through trade, acquire the other good, giving both nations more of both goods. Free trade will also cause each nation to continually improve the production processes of the good in which it specializes, because that good will be exposed to international competition.

Until 1849, Britain had Navigation Acts which protected it from foreign competition. However, British domestic manufacturing was stifled and British ship design failed to progress from 1815 to 1845 as a result of these acts. The political contest for free trade was won by 1849, and treaties of reciprocity followed.

Although smaller vessels, such as the fishing schooners, brigs, and snows, were constructed by the unschooled, who did little if any record keeping, the author does an admirable job of depicting the period by navigating the reader through the numerous available sources of books, builders' plans, sketches, paintings, and rare photographs.

MacGregor is a superb sleuth. For example, an etching in an 1829 publication shows an unnamed barque, but the letters 'Henr' are legible on the stern of a longboat, partially covered by the barque's mainmast. He identifies the vessel by examining *Lloyd's Register,* where only one barque is listed with the same first four letters as those on the longboat, the full name being *Henry,* built by Edward Adams at Buckler's Hard in 1825. Similar ingenious historical reconstructions abound in the text.

The author proves that the popular conception of the pre-1850 British merchant marine being dominated by fine line clipper ships and powerful steam craft just wasn't so. The old, proven ways of building profitable sailing vessels to meet the existing demand were the norm of the time. Tonnage of sailing ships built and registered in the United Kingdom exceeded that of steamships until after 1865. In the early 1840s, the trend was to build ships that were less sheer and with lengths greater in relation to their depth and breadth. The biggest single improvement was the fitting of purchase levers instead of hand spikes to the windlass. There is only an occasional reference to American maritime development. For example, mention is made that the schooner was prevalent in America by 1850, before its appearance in Europe.

Merchant Sailing Ships 1815-1850 is the second in series of three works on sailing vessels spanning the years 1775-1875. The text is richly supplemented with over 200 etchings, photographs, sketches, and prints.

MICHAEL B. COHN

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[Michael Cohn teaches at the U.S. Merchant Marine Academy. Views expressed here are not necessarily those of the Academy nor of any United States government agency.]

WALTER BROWNLEE, *The First Ships Round the World* (Cambridge University Press, 1976). 8¼" x 8", paperback, line drawings.

This little volume suggests something more in the publishing field than appears on the surface. The subject matter is devoted to Magellan's voyage, especially from the point of view of the ships involved in the voyage, their construction and their handling and maintenance problems.

But from a broader view, the book points to the need for more volumes of this kind if the lore of ships is ever to survive beyond present ship enthusiasts whose number is relatively small compared to the total population. In this present century so much of a marine nature has disappeared. The transatlantic liners, as such, are gone and the coasting schooners no longer exist. Yacht building went the way of glass fiber which is eminently practical but gone is the charm and workmanship that was characteristic of wooden yachts. Give some credit to *WoodenBoat* magazine for an assist in keeping wood craftsmanship alive. It is possible in the days ahead that young people will be without any knowledge of or interest in the vital role ships had in the development of world trade. It is tempting to quote Nobel Poet Laureat Czeslaw Milosz, in exile in the United States, who recently observed that he was appalled at how ignorant American students are about history. 'History is hardly taught in America,' he observed.

Thus, *The First Ships Round the World* fills in its own way a kind of void in maritime history. It is not a big or profound volume. Books about Magellan have been written in greater detail such as Hawthorne Daniel's *Ferdinand Magellan* in 1964 or Ian Cameron's *Magellan* in 1973. *First Ships* tells the Magellan story in a relatively brief, simple and straightforward way and it is abundantly illustrated with line cuts on every page.

The concept of small, very attractive paperback books on various phases of history is an excellent way to lead people, particularly young people, into a variety of historical subjects. From a nautical point of view it would be helpful to have a series of books with this format on various aspects of ships and the sea. The publishing of *First Ships* was part of a series by the Cambridge University Press, 'Introduction to the his-

tory of mankind,' and it is designated as a topic book. Trevore Cairns is general editor. *First Ships* was written by Walter Brownlee, described as a master mariner. Drawings are by Graham Humphreys.

JOHN R. HERBERT

Quincy, Massachusetts

ALICIA B. GOULD, *Nueva Lista Documentada de los Tribulantes de Colon en 1492*. Real Academia de la Historia, Madrid, 1984.

Among the commemorations of the quincentennial of the discovery of America a most outstanding place must be reserved for the distinguished publication by the Spanish Royal Academy of History of the *New Documented List of the Crews of Columbus in 1492*. This list is the sum of results of the researches by the North American scholar Alicia Bache Gould. She had set herself the goal of establishing a definitive listing of the crews of the three caravels which went on the first voyage of discovery with Columbus.

To a non-historian the choice of such a narrow topic for research, might be a surprise, but his admiration is sure to rise when he becomes aware that over forty years of devoted labor did not suffice to solve the problem completely.

Nevertheless, one has to admit that there are few professional or 'lay' historiographers, among whom Miss Gould counted herself, who attract as much attention as she did in the Spanish archives which she frequented. Her curriculum vita describes a life consecrated to exploratory work, almost totally given to the one historical problem which she had set for herself, until the end of her life, in her eighty-fifth year. On the 5th of May 1952, she died at the very portals of the Spanish National Archive of Simancas, and a bronze plaque mounted there commemorates the heroic fact of such unequalled dedication.

Ramón Carande, the Spanish historian, himself approaching a centennial, says in the biography which prefaces the edition of her work under discussion, that he often heard her say, 'What I had thought would be a matter of one or two years, will not be finished in forty.'

The beginning of putting together the list or register of the crews of the voyage of discovery of America does not start with Miss Gould; nearly a century before her, in 1825, Martín Fernández de Navarrete (who was able to present in his collection of Spanish voyages lists for the voyage of Magellan) had to content himself with an enumeration of the names of those crew members of the first voyage of Columbus who had been left in *La Navidad* on the north coast of Haiti, and who were all killed by the natives, as he found on his second voyage. The list of Navarrete has 40 names based on documents which omit even the names of the leaders of the Spanish fort in the documents, reducing the number to 37. It was Fernández Duro in his book *Colón Y Pinzón* (1884) who first presented a count of 88 names to make up the crews of the Colombian ships. As Fray Bartolomé de Las Casas and Hernando Colón say in their Histories that Columbus sailed with 90 men, the number given by Fernández Duro was a close enough match to be generally accepted.

Nevertheless, a magistrate of the city of Sevilla, Nicolás Tenorio, set about to put together a list of 71 names on the basis of archival material in Sevilla, which was regarded as the most authoritative one until in 1902 the Duchess of Alba published the second volume of Columbus holographs. This printed a list drawn by Columbus himself containing the names of the men of his crew who had been paid by him personally in Palos on the 26th of June 1492. The document contains forty names of which only ten were known. On the basis of all certain data thus known, Henry Vignaud, the North American historian, drew up a list in 1911 which assembled a total of 100 crew members. That was the state of the matter when Miss Gould decided to work on the problem.

There remains to be mentioned that two writers, contemporaries of the discoveries, Peter Martyr and Gonzalo Fernandez de Oviedo, declared that the Colombian crew numbered 120 names, which illustrates how much of the problem was unsolved. After a decade of work, in 1924, Miss Gould began to publish progress reports of her work in the *Boletín de la Real Academia de la Historia*, and in 1944 appeared her last installment.

The final result she obtained was a list of 87 completely authenticated names. To those must be added 18 doubtful ones and 13 who did not make the voyage. The total number of names studied by Miss Gould mounts to 118 which differs by only two from the figure given by Oviedo.

Nevertheless, paraphrasing the author herself, she did not consider her work as finished, and did not pub-

lish the residue of her research, so names like Vicente Yañez Pinzón are missing from her list. Miss Gould left her papers in charge of José de la Peña Y Cámara, who was director of the Archive of the Indies, and whom she considered her literary executor, with the request that he complete the list. This request he could not honor until the year 1984, the year in which the Real Academia de la Historia brought out the work of Miss Gould in book form. To this work de la Peña added only the material on Pinzón and then declared it closed.

Quantitatively speaking, the results obtained by Miss Gould are small as she only discovered eleven new names. By contrast, the Duchess of Alba, using only her own family archive, added 30 names which had been totally unknown. But the difference between the amount of efforts of one against the other, is disproportionate, keeping in mind that the data of the Duchess of Alba, although abundant, were not the result of sustained and systematic research, but the consequences of fortunate circumstances, while Miss Gould's results represent the fruit of extended trips, by and large without results, through the entire range of Spanish archival deposits of which she knew.

Also noted should be the profound difference in the method of the two authors. Alicia B. Gould limited herself to present to the reader a strictly limited list of names based wholly on documentation which she had personally handled, concerning every seaman of the crews. This analytical labor, examining every minutia about each person, permitted her to clear up many doubtful points, as well as to add new information; for instance, such as the presence of four men who had been condemned to death and who sailed on Columbus' ships by royal order, together with details of their records. A personage as well known as Rodrigo de Triana, the mariner who was the first to see land, was found to be Juan Rodriguez Bermejo (Trianan is the sailor's quarter of Sevilla and the sighting was the first of an American coast); there had also been doubt concerning the existence of Pedro de Lepe, and Miss Gould found in the Archivo de Indias a pay list which registers Pedro de Lepe, member of the crew of the first voyage, as recipient. But we should never stop if we were to comment on every name of the list.

The life of Miss Gould puts squarely before us the problem of whether it is ever possible to reconstruct the past completely, or at least a part of it. The destructive action by time and man eliminates a good part of the documentation, and to this factor has to be added that many questions asked today were not felt to be important by contemporaries. In sum, archival research cannot give answers to all our queries and that is why we believe that the historian in his reconstruction of the past has to use his imagination in order to fill in the gaps in the documents by hypotheses which are consistent with the facts, and to permit the recreation of the vanished past, until better and more efficient methods emerge which will allow the resolution of problems that are insoluble enigmas today.

Miss Gould did not need to have recourse to imagination in her historical work. She was satisfied by her rigorous method, and she never got away one thousandths of an inch from her documentation. Her history is one without hypotheses. Therefore, although we basically disagree not with her method but with her objective, we find her indestructible devotion and her exemplary life altogether admirable.

It is not enough to point out without exaggerating, that Miss Gould made her interminable and expensive investigations without any recourse to other than her own resources; that she never asked for help of any kind, but in fact gave generously to all who approached her, interrupting her own labors. She did not aspire to prizes for her singular scholarly devotion and never for a moment gave up her tenacious search and passionate pursuit of a documentation which was scarce and dispersed, and she never declared herself disappointed when she was unsuccessful in some of her efforts.

There cannot be the smallest doubt that Alicia Bache Gould was a rare spirit, endowed with scientific clarity and indomitable will to work. She needed no stimulation which would have been unnecessary for her because her puritanical soul found reward in the labor itself.

All of this suggests that Alicia B. Gould, unequalled in her archival research, be seen as the author of a work which was characterized by our admired late friend Admiral Samuel Eliot Morison 'as the most important piece of original Columbus research yet done in the present century.'

ROLANDO A. LAGUARDA TRIAS

CHRISTINE LEIGH HEYRMAN, *Commerce and Culture* The Maritime Communities of Colonial Massachusetts 1690-1750 (New York: W. W. Norton, 1984). Bibliography, index, no illustrations, hard cover, 431 pages. $25.00.

For those of us whose ancestors went down to the sea in almost every kind of ship, particularly those who came either from Marblehead or Gloucester, Massachusetts, Christine Heyrman's book provides many hours of honest and valuable entertainment, to say nothing of educational enrichment. In a wider sense, comparing the development of commerce and culture in these two towns as typical of the beginning of maritime history in colonial Massachusetts, the author adds new stitches and an interesting pattern to the whole fabric of that period of our history.

Being a Marbleheader the exercise of reviewing a book which even mentioned Gloucester within the same hard cover required disciplined and objective judgment as well as several hours of research. (I was reminded of the old story told to and by every Marblehead school child about the Marbleheader who was brought before the local judge for some minor violation of the laws of the Commonwealth. The defendant's comment when reprimanded by the magistrate was, 'What the hell has the Commonwealth of Massachusetts got to do with Marblehead?')

To use Marblehead as a model of the important expansion of maritime economy in the seventeenth and eighteenth centuries is, for the 'Header, an example of clear and logical thinking on the part of the author. To compare it with Gloucester took the courage of a Californian. Nevertheless the comparison is a scholarly and informative presentation of an important era of New England history—namely, the years between 1690 and 1750.

Lest the reader accuse the reviewer of misguided prejudice I grabbed at Gloucester books with the same determination as a drowning man for a life jacket. I found Babson's *History of the Town of Gloucester* a fine edged tool for sharpening both my knowledge and appraisal of that Cape Ann town. Two friends, Sarah Robbins and Dorothy Brown capsulated sixty years of Gloucester history so delightfully that I blessed the day I was asked to review Christine Heyrman's book.

I reread that part of Roads' *History and Traditions of Marblehead* pertinent to the period of her book. I also reread Bowden's *Commerce of Marblehead.* Hammond is an old friend, a fine historian. I felt pleased, proud and reassured that his treatise was constantly used by Ms. Heyrman. She also acknowledged valuable assistance from two highly respected persons in both the historical and archival fields—Robert Howie, Jr., and Bette Hunt (also friends). With this kind of painstaking devotion to research in Marblehead I concluded the Gloucester documentation was of equal quality. I ceased to worry and let the footnotes fend for themselves.

If I had one criticism of the book it would be verbiage. Occasionally, I lost my way in seemingly repetitious detail which confused rather than clarified the particular point the author was trying to make.

For readers like myself who prefer neither a reader's digest of any written material, nor the exhaust-all-records approach, *Commerce and Culture* could have been shorter with the same insights into the life of two fascinating New England seacoast towns.

With this comment for openers, I believe the book to be important and certainly required reading for anyone interested in maritime history.

Both towns in their early days gained livelihood from the sea, mostly to grace the dinner table or to augment the treasuries of the Boston merchants. Both developed subsistence agriculture, although Marblehead's rock-bound and rock-entrenched land did not produce either the sufficient or successful crops enjoyed by Gloucester. From Marblehead there was no place to go for more arable land except to Salem (Heaven forbid!), while Gloucester bordered many hectares, if not exactly at her disposal certainly at her bidding. Fish swam in abundance, unthreatened in the vast waters of Massachusetts Bay, yet neither town cultivated this bounty of the sea until almost the end of the seventeenth century. Far-sighted citizens finally managed, often forcing the change from struggling village to important sea port. Ministers of Gloucester and Marblehead turned their clerical collars into business frocks promoting commerce from the pulpit as well as the market place, a venture, not an adventure, which vied even in their minds, with adherence to the Christian Gospel in its benefits to the community.

Ms. Heyrman carefully traces the development of fishing from the dinner table to the industry in the two Massachusetts towns. So interestingly does she analyze the well-defined differences and the marked similarities

between them that the reader feels emotionally tied, if only temporarily, to the whole maritime history of the Commonwealth.

While industry flourished culture changed and, to a degree, blossomed. In Gloucester it was less marked, and more restrained within provincial limits. (Annisquam Harbor against Gloucester Harbor, First Parish against Second, Third and even Fourth.)

In Marblehead, however, from its very beginning a village of rough, always-ready-for-almost-everything fishermen who had made a hasty exit from the home of parent Salem, culture was written in the lower case for a much longer stretch of time. To be sure, Parson Barnard held the reins of Orthodoxy firmly in his hands, yet the Anglicans often blocked the path to complete submission to the Congregational theory of government and religion.

The author equates a Quaker movement in Gloucester to the Anglican trend in Marblehead. The reviewer, an Anglican herself, is aware of the presence and influence of the 'Church' in Marblehead from the beginning of the eighteenth century and there is ample evidence to substantiate the awareness. Curiously, material about the Quakers in Gloucester seems singularly lacking. I can only take the word of a fine scholar like Christine Heyrman that the Quakers were as persistent in their efforts to establish themselves and their religion in Gloucester as were the parishioners of St. Michael's in Marblehead. If the comparison holds, it also holds that the Quakers lost the struggle and left the town, thus permitting the Orthodox religion, i.e., Congregationalism, to reign without rival. In Marblehead, however, the Anglicans survived the trials and setbacks to play more than a minor part in the religion, government, yes! and the culture of Marblehead.

Intriguing accounts of the Evangelical revival, stories of personal vendettas—family members beating each other, citizens suing each other for debts—fill the pages as do the chronicles of war, disease (small pox was enemy number one), crop failure and the deep contrasts in life style between rich and poor.

Two challenging and thought-provoking aspects of this book lure both reader and historian to further study of that particular period of history. The first is Ms. Heyrman's well-documented theory that, despite all the changes in the economic and social life of the people, both towns clung, in varying degrees, to traditional beliefs and ways of life, while the second comes directly from the reader. How truly remarkable that two towns where education was limited to but a few of its citizens could have attained such eminence in both commerce and culture!

In most doctoral presentations dullness and pedagogic language threaten the vitality of the subject matter. That Christine Heyrman gives us, for the most part, a refreshing account of the commerce and culture of two Massachusetts towns speaks well for the doctrine of the modern historian, namely to polish history to the point where the living can see themselves in the past.

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ANDREW LAMBERT, *Battleships in Transition: The Creation of the Steam Battlefleet 1815-1860* (Annapolis, Maryland: Naval Institute Press, 1984). 7½" x 10", cloth, 200 pages, 12 illustrations, appendices, notes, bibliography, and index. $18.95.

This book describes the origin and demise of the wooden steam battleships. It is not simply a chronological narrative, but is a thoughtful analysis of a type of ship and its role in naval history. The author, a British naval historian, emphasizes technology, but skillfully weaves in naval policy and tactics. Dr. Lambert also gives a perceptive account of the Crimean War, concluding that although the steam battleships fought no major actions during the war, their significance was felt in the strategic decisions of both sides. The Russians, with no steam battleships, felt unable to contest the command of the Black Sea or the Baltic and withdrew their naval forces into the fortified arsenals of Sebastopol, Sveaborg and Cronstadt (page 52). Although this book by no means is the first to stress Anglo-French naval rivalry in the middle of the nineteenth century, it does suggest convincingly that this rivalry led to a race in the construction of warships, and that the wooden steam battleships were primarily a product of this race.

This is an important book. The author clearly demonstrates that the wooden steam battleships were 'an essential stage' in the development of the modern warship and not simply an 'anachronistic product of a conservative tradition' as James Baxter in *The Introduction of the Ironclad Warship* observed. Dr. Lambert emphasizes the British and French ships, but does in-

clude the wooden steam battleships built by other nations. Although the United States built none of these vessels, the author does mention the large frigates of the *Merrimack* class because they were 'as large as British steam Second Rate 90-gun ships.' Finally, this book outlines the important role that Captain Sir Baldwin Walker, surveyor of the Navy from 1848 to 1861, played in British naval policy, particularly concerning ship construction. Walker was not only a progressive in naval technology, but a very able Admiralty administrator.

Battleships in Transition complements S. Sandler's *The Emergence of the Modern Capital Ship,* which was published in 1983. Taken together they provide an excellent examination of the early development of the modern capital ship. Dr. Lambert's study is well researched and documented, and includes a tabular appendix detailing the wooden steam battleships built or converted with their particulars, design histories, and fates. It is extremely well illustrated with more than 100 photographs and plans of warships.

WILLIAM N. STILL, JR.

East Carolina University

RICHARD HENDERSON, commentator, *53 Boats You Can Build* (Camden, Maine: International Marine Publishing Company, 1985). 8½" x 11", paper, 135 pages, 183 drawings, list of contents, list of addresses, for the designers. $12.95.

This book presents a selection of designs taken from other earlier books by the same publisher, each accompanied by the comments of Richard Henderson, an experienced sailor who is obviously familiar with the works of the designers. With the exception of a few small open craft, the designs are of cruising types. They range in date of conception from about 1924 to the early 1980s, but have a timeless quality derived from a traditional or otherwise proven base. The boats range from simple dinghies and skiffs to sophisticated forty-seven footers. The latter might make the average reader wonder if he was one of the 'You's' addressed in the title. Only Phil Bolger's design No. 22, a keel sharpie, employs the simple and ancient practice of twisting a straight-edged side panel to produce a pleasing sheer and chine. Incidentally, by curious error, Bolger's designs are not included in the table of contents.

Most boatmen have strong prejudices and such readers are sure to find loves and hates between these pages. However, all of the designers have histories of success, and the illustrated concepts have been built and proven. Lovers of sailing cruisers and small craft who follow the periodicals will recognize many of the designs, particularly those of the Atkins, L. Frances Herreshoff, and Philip C. Bolger, who have written extensively.

Some of the designs achieved great popularity in the days of the pre-World War II depression, when home-building and one-off construction by small professional builders provided a large percentage of our yachting fleet. The incentives for such activity are not as common in these times of mass production, with the availability of an abundance of used craft resulting from planned obsolescence.

Construction of the older designs could benefit from the use of modern materials and methods, and indeed, the original specifications might be impossible to duplicate. Readers of the book should recognize the merits of the designs and not be discouraged by this. Some of the boats have already been successfully reproduced by modern methods under the advice of the designers.

Henderson's comments appear to evaluate the designs well but briefly. Remarks on certain unusual features such as Phil Bolger's lee-boards and his jib on design-21 would be interesting and helpful. The reader would be advised to investigate in more detail before undertaking a lengthy building project.

One might ask why *The American Neptune* should be interested in this book. The answer must be that marine historians are interested in boats, and these designs represent a phase of yachting history. Any lover of small and moderately-sized, non-racing sailing craft will enjoy perusal of the designs and would probably welcome the book to his library. Serious students would like to see more technical data, but such information can be obtained from the naval architects or their representatives, whose addresses are appended.

It is hoped that this book will lead to the addition of some handsome and individualistic boats to the present fleet of Clorox bottles.

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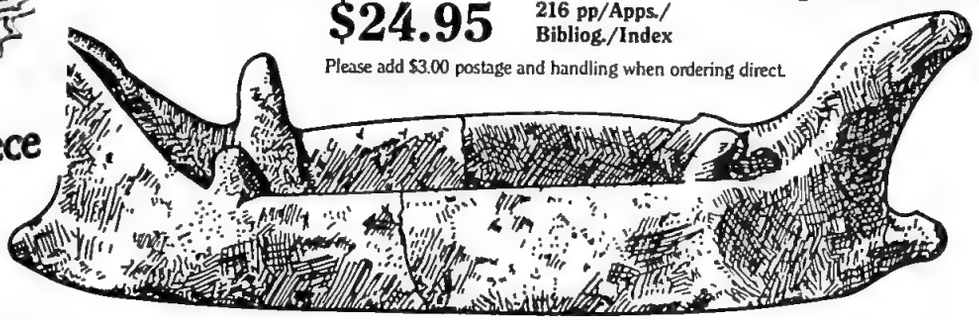

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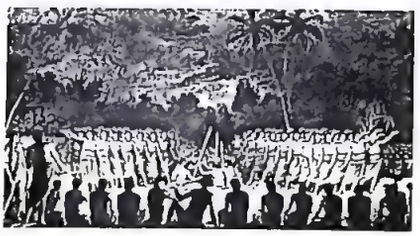

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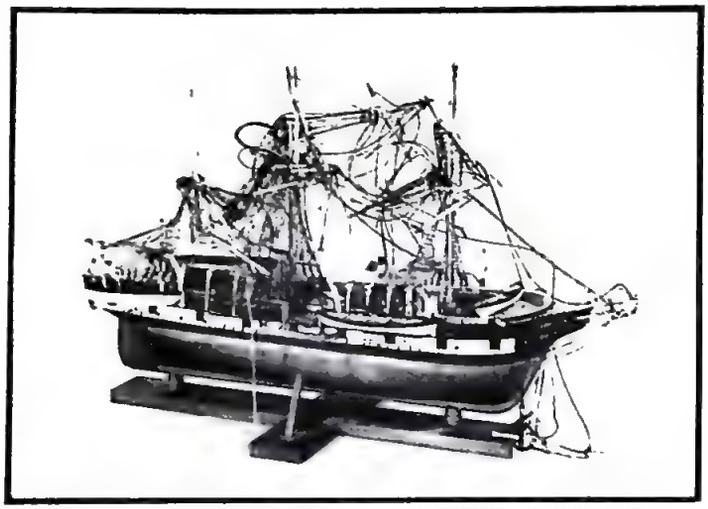

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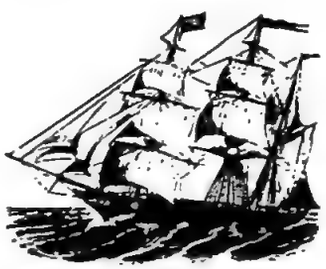

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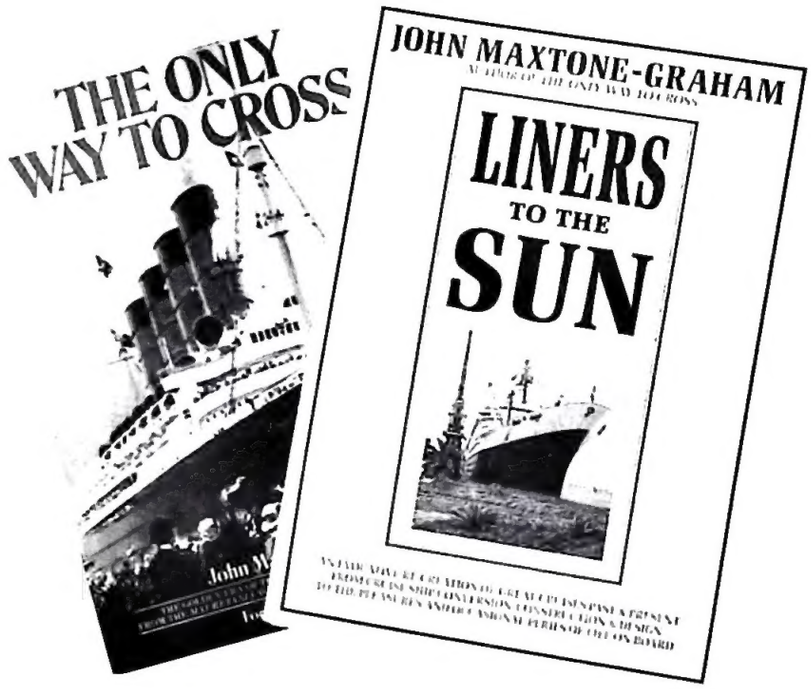

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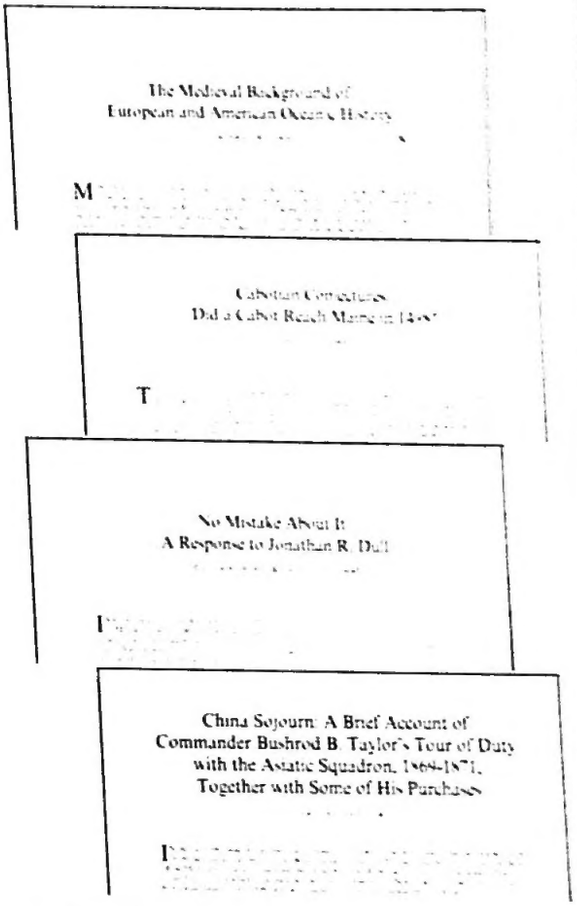

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